



Application

17072 - 2022 Roadway Expansion

17638 - Highway 5 Victoria Mobility and Safety Improvement

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted  
Submitted Date: 04/14/2022 3:49 PM

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## Primary Contact

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<b>What Grant Programs are you most interested in?</b>	Regional Solicitation - Roadways Including Multimodal Elements			

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## Organization Information

**Name:** CARVER COUNTY

**Jurisdictional Agency (if different):**

**Organization Type:**

County Government

**Organization Website:**

**Address:**

PUBLIC WORKS

11360 HWY 212 W #1

\*

COLOGNE

Minnesota

55322-9133

City

State/Province

Postal Code/Zip

**County:**

Carver

**Phone:\***

Ext.

**Fax:**

**PeopleSoft Vendor Number**

0000026790A12

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## Project Information

**Project Name**

Highway 5 Victoria Mobility and Safety Improvement

**Primary County where the Project is Located**

Carver

**Cities or Townships where the Project is Located:**

Victoria

**Jurisdictional Agency (If Different than the Applicant):**

MnDOT

The Highway 5 Victoria Mobility and Safety Improvement project expands a section of Trunk Highway 5 to a four-lane section within the City of Victoria. The existing A-Minor Arterial features a two-lane rural section and carries over 15,000 vehicles per day. Heavy commuter traffic causes congestion throughout the corridor today, and traffic growth associated with planned development is expected to further degrade the operations and safety issues experienced.

In addition to the four-lane expansion and modernization to an urban section, a traffic signal will be added at the Kochia Lane/Park Drive intersection, and significant pedestrian improvements will be throughout the area. The new signal at Kochia Lane/Park Drive not only provides improved cross street operations during the peak periods but greatly improves safety for these movements as one fatal crash recently occurred at this location. Expanded multi-use trail facilities will be added to Kochia Lane/Park Drive and 78th Street, forming a more continuous and cohesive system. In addition to the signalized crossing of Highway 5 at Kochia Lane/Park Drive, an enhanced crossing system with center refuge island is proposed at 78th Street, providing a controlled two-stage crossing and greatly improving mobility to the Lake Minnetonka Regional Trail north off Highway 5 and downtown Victoria.

**Brief Project Description (Include location, road name/functional class, type of improvement, etc.)**

*(Limit 2,800 characters; approximately 400 words)*

**TRANSPORTATION IMPROVEMENT PROGRAM (TIP) DESCRIPTION - will be used in TIP if the project is selected for funding. [See MnDOT's TIP description guidance.](#)**

TH 5, VICTORIA, FROM PARK DR/KOCHIA LN TO STIEGER LK LN, ROADWAY EXPANSION, SIGNAL, ENHANCED PED CROSSING

*Include both the CSAH/MSAS/TH references and their corresponding street names in the TIP Description (see Resources link on Regional Solicitation webpage for examples).*

**Project Length (Miles)**

1.0

*to the nearest one-tenth of a mile*

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## Project Funding

**Are you applying for competitive funds from another source(s) to implement this project?** No

**If yes, please identify the source(s)**

**Federal Amount** \$10,000,000.00

**Match Amount** \$2,587,000.00

*Minimum of 20% of project total*

**Project Total** \$12,587,000.00

*For transit projects, the total cost for the application is total cost minus fare revenues.*

**Match Percentage** 20.55%

*Minimum of 20%*

*Compute the match percentage by dividing the match amount by the project total*

**Source of Match Funds** Carver County, City of Victoria

*A minimum of 20% of the total project cost must come from non-federal sources; additional match funds over the 20% minimum can come from other federal sources*

**Preferred Program Year**

**Select one:** 2026, 2027

*Select 2024 or 2025 for TDM and Unique projects only. For all other applications, select 2026 or 2027.*

**Additional Program Years:** 2025

*Select all years that are feasible if funding in an earlier year becomes available.*

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## Project Information-Roadways

**County, City, or Lead Agency** Carver County

**Functional Class of Road** A-Minor Expander

**Road System** TH

*TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET*

**Road/Route No.** 5

*i.e., 53 for CSAH 53*

**Name of Road** Arboretum Boulevard

*Example; 1st ST., MAIN AVE*

**Zip Code where Majority of Work is Being Performed** 55386

**(Approximate) Begin Construction Date** 04/01/2026

**(Approximate) End Construction Date** 11/30/2026

**TERMINI:(Termini listed must be within 0.3 miles of any work)**

**From:**  
**(Intersection or Address)** 0.3 miles east of Park Drive/Kochia Lane

**To:**  
**(Intersection or Address)** Commercial Avenue

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Miles of Sidewalk (nearest 0.1 miles)	0
Miles of Trail (nearest 0.1 miles)	0.4
Miles of Trail on the Regional Bicycle Transportation Network (nearest 0.1 miles)	0.2

Primary Types of Work	GRADE, AGG BASE, BIT SURF, CURB AND GUTTER, MEDIAN, TRAIL, SIGNALS, LIGHTING, PED RAMPS
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Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER, STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.

### BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

Structure is Over/Under  
(Bridge or culvert name):

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## Requirements - All Projects

### All Projects

1. The project must be consistent with the goals and policies in these adopted regional plans: Thrive MSP 2040 (2014), the 2040 Transportation Policy Plan (2018), the 2040 Regional Parks Policy Plan (2018), and the 2040 Water Resources Policy Plan (2015).

Check the box to indicate that the project meets this requirement. Yes

2. The project must be consistent with the 2040 Transportation Policy Plan. Reference the 2040 Transportation Plan goals, objectives, and strategies that relate to the project.

The project aligns with the 2040 Transportation Policy Plan by prioritizing the following goals and strategies:

Goal A: Transportation System Stewardship (p. 58)

-Objective B: Operate the regional transportation system efficiently and cost-effectively.

-Strategy A1 (p. 2.17).

Goal B: Safety and Security (p. 60)

-Objective A: Reduce fatal and serious injury crashes and improve safety and security.

-Strategies B1 (p. 2.20), B3 (p. 2.21), B4 (p. 2.22), and B6 (p. 2.23).

Goal C: Access to Destinations (p. 62)

-Objective A: Increase availability of multimodal travel options

-Objective B: Increase reliability and predictability for travel

-Objective D: Increase number and share of trips by transit, carpools, bicycling, and walking

-Objective E: Improve availability and quality of multimodal travel options for people of all ages and abilities

-Strategies C1 (p. 2.24), C2 (p. 2.25), C3 (p. 2.27), C9 (p. 2.32), C10 (p. 2.32), C15 (p. 2.36), C16 (p. 2.36), and C17 (p. 2.37).

Goal D: Competitive Economy (p. 64)

-Objective B: Invest in multimodal transportation system

-Objective C: Support economic competitiveness

**Briefly list the goals, objectives, strategies, and associated pages:**

through efficient freight movement

-Strategies D1 (p.2.38) and D3 (p. 2.39).

Goal E: Healthy Environment (p. 66)

-Objective A: Reduce transportation-related air emissions

-Objective C: Increase availability/attractiveness of transit, bicycling, and walking to encourage active transportation

-Objective D: A transportation system that promotes community cohesion and connectivity for people of all ages and abilities

-Strategies E1 (p. 2.42), E2 (p. 2.43), E3 (p. 2.44), and E6 (p. 2.44).

Goal F: Leveraging Transportation Investments to Guide Land Use (p. 70)

-Objective A: Focus regional growth in areas that support the full range of multimodal travel

-Objective C: Encourage land use design that integrates highways, streets, transit, walking, and bicycling

-Strategies F1 (p. 2.48), F5 (p. 2.52), F6 (p. 2.52), and F7 (p. 2.53).

*Limit 2,800 characters, approximately 400 words*

*3. The project or the transportation problem/need that the project addresses must be in a local planning or programming document. Reference the name of the appropriate comprehensive plan, regional/statewide plan, capital improvement program, corridor study document [studies on trunk highway must be approved by the Minnesota Department of Transportation and the Metropolitan Council], or other official plan or program of the applicant agency [includes Safe Routes to School Plans] that the project is included in and/or a transportation problem/need that the project addresses.*

This project is referenced directly in the Carver County Arboretum Area Transportation Plan and meets local city, regional, and even state-wide goals as described in the City of Victoria's Comprehensive Plan. The Comprehensive Plan for the City of Victoria lays out extensive plans for the future of their community.

(<https://www.ci.victoria.mn.us/DocumentCenter/View/4398/Our-Victoria-Tomorrow-2040-Comprehensive-Plan--PDF>)

Most specifically this project directly addresses the county's transportation Goal T-2 to provide an "efficient roadway system," and is specifically included under Policy T-2.1 "to facilitate improvements to Highway 5" (p. 101).

List the applicable documents and pages: Unique projects are exempt from this qualifying requirement because of their innovative nature.

However, this specific project is more directly referenced in the Carver County Arboretum Area Transportation Plan. The Full Implementation Plan for the project references the plan for the Hwy 5 corridor improvements directly in a number of locations (e.g., p. 2, 4, 6) and lists it as one of the short-term improvement goals to be completed before 2026 (p.4).

<https://www.co.carver.mn.us/departments/public-works/projects-studies/arboretum-area-transportation-plan>

The project is also described in some detail in the Interactive Story Map of the Arboretum Area Plan as part of the broader Highway 5 Vision.  
<https://bmi.maps.arcgis.com/apps/MapSeries/index.html?appid=179cfee78337400aaa37f8f8b31d208b>



4. The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of transit stations/stops, transit terminals, park-and-ride facilities, or pool-and-ride lots. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding as a standalone project, but can be included as part of the larger submitted project, which is otherwise eligible. Unique project costs are limited to those that are federally eligible.

**Check the box to indicate that the project meets this requirement. Yes**

5. Applicant is a public agency (e.g., county, city, tribal government, transit provider, etc.) or non-profit organization (TDM and Unique Projects applicants only). Applicants that are not State Aid cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

**Check the box to indicate that the project meets this requirement. Yes**

6. Applicants must not submit an application for the same project elements in more than one funding application category.

**Check the box to indicate that the project meets this requirement. Yes**

7. The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below in Table 1. For unique projects, the minimum award is \$500,000 and the maximum award is the total amount available each funding cycle (approximately \$4,000,000 for the 2022 funding cycle).

**Strategic Capacity (Roadway Expansion):** \$1,000,000 to \$10,000,000

**Roadway Reconstruction/Modernization:** \$1,000,000 to \$7,000,000

**Traffic Management Technologies (Roadway System Management):** \$500,000 to \$3,500,000

**Spot Mobility and Safety:** \$1,000,000 to \$3,500,000

**Bridges Rehabilitation/Replacement:** \$1,000,000 to \$7,000,000

**Check the box to indicate that the project meets this requirement. Yes**

8. The project must comply with the Americans with Disabilities Act (ADA).

**Check the box to indicate that the project meets this requirement. Yes**

9. In order for a selected project to be included in the Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have a current Americans with Disabilities Act (ADA) self-evaluation or transition plan that covers the public right of way/transportation, as required under Title II of the ADA. The plan must be completed by the local agency before the Regional Solicitation application deadline. For the 2022 Regional Solicitation funding cycle, this requirement may include that the plan is updated within the past five years.

**The applicant is a public agency that employs 50 or more people and has a completed ADA transition plan that covers the public right of way/transportation. Yes**

**(TDM and Unique Project Applicants Only) The applicant is not a public agency subject to the self-evaluation requirements in Title II of the ADA.**

**Date plan completed:** 02/18/2014

<https://www.co.carver.mn.us/home/showdocument?>

**Link to plan:**

id=1164

**The applicant is a public agency that employs fewer than 50 people and has a completed ADA self-evaluation that covers the public right of way/transportation.**

**Date self-evaluation completed:**

**Link to plan:**

**Upload plan or self-evaluation if there is no link**

Upload as PDF

10. The project must be accessible and open to the general public.

**Check the box to indicate that the project meets this requirement. Yes**

11. The owner/operator of the facility must operate and maintain the project year-round for the useful life of the improvement, per FHWA direction established 8/27/2008 and updated 6/27/2017. Unique projects are exempt from this qualifying requirement.

**Check the box to indicate that the project meets this requirement. Yes**

12. The project must represent a permanent improvement with independent utility. The term independent utility means the project provides benefits described in the application by itself and does not depend on any construction elements of the project being funded from other sources outside the regional solicitation, excluding the required non-federal match. Projects that include traffic management or transit operating funds as part of a construction project are exempt from this policy.

**Check the box to indicate that the project meets this requirement. Yes**

13. The project must not be a temporary construction project. A temporary construction project is defined as work that must be replaced within five years and is ineligible for funding. The project must also not be staged construction where the project will be replaced as part of future stages. Staged construction is eligible for funding as long as future stages build on, rather than replace, previous work.

**Check the box to indicate that the project meets this requirement. Yes**

14. The project applicant must send written notification regarding the proposed project to all affected state and local units of government prior to submitting the application.

**Check the box to indicate that the project meets this requirement. Yes**

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## Roadways Including Multimodal Elements

1. All roadway and bridge projects must be identified as a principal arterial (non-freeway facilities only) or A-minor arterial as shown on the latest TAB approved roadway functional classification map.

**Check the box to indicate that the project meets this requirement. Yes**

### Roadway Strategic Capacity and Reconstruction/Modernization and Spot Mobility projects only:

2. The project must be designed to meet 10-ton load limit standards.

**Check the box to indicate that the project meets this requirement. Yes**

### Bridge Rehabilitation/Replacement and Strategic Capacity projects only:

3. Projects requiring a grade-separated crossing of a principal arterial freeway must be limited to the federal share of those project costs identified as local (non-MnDOT) cost responsibility using MnDOT's Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities manual. In the case of a federally funded trunk highway project, the policy guidelines should be read as if the funded trunk highway route is under local jurisdiction.

**Check the box to indicate that the project meets this requirement. Yes**

4. The bridge must carry vehicular traffic. Bridges can carry traffic from multiple modes. However, bridges that are exclusively for bicycle or pedestrian traffic must apply under one of the Bicycle and Pedestrian Facilities application categories. Rail-only bridges are ineligible for funding.

**Check the box to indicate that the project meets this requirement.**

### Bridge Rehabilitation/Replacement projects only:

5. The length of the bridge clear span must exceed 20 feet.

**Check the box to indicate that the project meets this requirement.**

6. The bridge must have a National Bridge Inventory Rating of 6 or less for rehabilitation projects and 4 or less for replacement projects.

Check the box to indicate that the project meets this requirement.

**Roadway Expansion, Reconstruction/Modernization, and Bridge Rehabilitation/Replacement projects only:**

7. All roadway projects that involve the construction of a new/expanded interchange or new interchange ramps must have approval by the Metropolitan Council/MnDOT Interchange Planning Review Committee prior to application submittal. Please contact Michael Corbett at MnDOT ( Michael.J.Corbett@state.mn.us or 651-234-7793) to determine whether your project needs to go through this process as described in Appendix F of the 2040 Transportation Policy Plan.

Check the box to indicate that the project meets this requirement. Yes

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## Requirements - Roadways Including Multimodal Elements

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### Specific Roadway Elements

<b>CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES</b>	<b>Cost</b>
Mobilization (approx. 5% of total cost)	\$650,000.00
Removals (approx. 5% of total cost)	\$500,000.00
Roadway (grading, borrow, etc.)	\$736,000.00
Roadway (aggregates and paving)	\$2,720,000.00
Subgrade Correction (muck)	\$2,500,000.00
Storm Sewer	\$1,400,000.00
Ponds	\$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$951,000.00
Traffic Control	\$542,000.00
Striping	\$153,000.00
Signing	\$113,000.00
Lighting	\$0.00
Turf - Erosion & Landscaping	\$662,000.00
Bridge	\$0.00
Retaining Walls	\$0.00
Noise Wall (not calculated in cost effectiveness measure)	\$0.00
Traffic Signals	\$310,000.00
Wetland Mitigation	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$1,200,000.00
Other Roadway Elements	\$0.00
<b>Totals</b>	<b>\$12,437,000.00</b>

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## Specific Bicycle and Pedestrian Elements

<b>CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES</b>	<b>Cost</b>
Path/Trail Construction	\$35,000.00
Sidewalk Construction	\$5,000.00
On-Street Bicycle Facility Construction	\$0.00
Right-of-Way	\$0.00
Pedestrian Curb Ramps (ADA)	\$10,000.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	\$95,000.00
Pedestrian-scale Lighting	\$0.00
Streetscaping	\$0.00
Wayfinding	\$0.00
Bicycle and Pedestrian Contingencies	\$5,000.00
Other Bicycle and Pedestrian Elements	\$0.00
<b>Totals</b>	<b>\$150,000.00</b>

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## Specific Transit and TDM Elements

<b>CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES</b>	<b>Cost</b>
Fixed Guideway Elements	\$0.00
Stations, Stops, and Terminals	\$0.00
Support Facilities	\$0.00
Transit Systems (e.g. communications, signals, controls, fare collection, etc.)	\$0.00
Vehicles	\$0.00
Contingencies	\$0.00
Right-of-Way	\$0.00
Other Transit and TDM Elements	\$0.00
<b>Totals</b>	<b>\$0.00</b>

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## Transit Operating Costs

<b>Number of Platform hours</b>	0
<b>Cost Per Platform hour (full loaded Cost)</b>	\$0.00

<b>Subtotal</b>	\$0.00
<b>Other Costs - Administration, Overhead,etc.</b>	\$0.00

## Totals

<b>Total Cost</b>	\$12,587,000.00
<b>Construction Cost Total</b>	\$12,587,000.00
<b>Transit Operating Cost Total</b>	\$0.00

## Congestion within Project Area:

*The measure will analyze the level of congestion within the project area. Council staff will provide travel speed data on the "Level of Congestion" map. The analysis will compare the peak hour travel speed within the project area to free-flow conditions.*

<b>Free-Flow Travel Speed:</b>	53
<b>Peak Hour Travel Speed:</b>	42
<b>Percentage Decrease in Travel Speed in Peak Hour compared to Free-Flow:</b>	20.75%
<b>Upload Level of Congestion map:</b>	1649878504795_LvlofCongestion.pdf

## Congestion on adjacent Parallel Routes:

<b>Adjacent Parallel Corridor</b>	TH 7
<b>Adjacent Parallel Corridor Start and End Points:</b>	
<b>Start Point:</b>	Rolling Acres Road
<b>End Point:</b>	east of Rolling Acres Rd
<b>Free-Flow Travel Speed:</b>	56
<i>The Free-Flow Travel Speed is black number.</i>	
<b>Peak Hour Travel Speed:</b>	42
<i>The Peak Hour Travel Speed is red number.</i>	
<b>Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:</b>	25.0%
<b>Upload Level of Congestion Map:</b>	1649878504777_LvlofCongestion_parallel.pdf

## Principal Arterial Intersection Conversion Study:

**Proposed interchange or at-grade project that reduces delay at a High Priority Intersection:**

*(80 Points)*

**Proposed at-grade project that reduces delay at a Medium Priority Intersection:**

(60 Points)

**Proposed at-grade project that reduces delay at a Low Priority Intersection:**

(50 Points)

**Proposed interchange project that reduces delay at a Medium Priority Intersection:**

(40 Points)

**Proposed interchange project that reduces delay at a Low Priority Intersection:**

(0 Points)

**Not listed as a priority in the study:** Yes

(0 Points)

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## Measure B: Project Location Relative to Jobs, Manufacturing, and Education

Existing Employment within 1 Mile:	1146
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	141
Existing Post-Secondary Students within 1 Mile:	0
Upload Map	1649878590408_Economy.pdf

Please upload attachment in PDF form.

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## Measure C: Current Heavy Commercial Traffic

RESPONSE: Select one for your project, based on the updated 2021 Regional Truck Corridor Study:

**Along Tier 1:**

**Miles:** 0

(to the nearest 0.1 miles)

**Along Tier 2:**

**Miles:** 0

(to the nearest 0.1 miles)

**Along Tier 3:** Yes

**Miles:** 1.0

(to the nearest 0.1 miles)

**The project provides a direct and immediate connection (i.e., intersects) with either a Tier 1, Tier 2, or Tier 3 corridor:**

**None of the tiers:**

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## Measure A: Current Daily Person Throughput

<b>Location</b>	TH 5 from CSAH 11 to CSAH 13
<b>Current AADT Volume</b>	15200
<b>Existing Transit Routes on the Project</b>	N/A

*For New Roadways only, list transit routes that will likely be diverted to the new proposed roadway (if applicable).*

**Upload Transit Connections Map** 1649878687127\_Transit.pdf

*Please upload attachment in PDF form.*

## Response: Current Daily Person Throughput

<b>Average Annual Daily Transit Ridership</b>	0
<b>Current Daily Person Throughput</b>	19760.0

## Measure B: 2040 Forecast ADT

**Use Metropolitan Council model to determine forecast (2040) ADT volume** No

**If checked, METC Staff will provide Forecast (2040) ADT volume**

**OR**

**Identify the approved county or city travel demand model to determine forecast (2040) ADT volume** Carver County 2040 Comprehensive Plan Model Figure 4.8 with sensitivity analysis from Arboretum Area Transportation Plan.

**Forecast (2040) ADT volume** 23600

## Measure A: Engagement

*i. Describe any Black, Indigenous, and People of Color populations, low-income populations, disabled populations, youth, or older adults within a ½ mile of the proposed project. Describe how these populations relate to regional context. Location of affordable housing will be addressed in Measure C.*

*ii. Describe how Black, Indigenous, and People of Color populations, low-income populations, persons with disabilities, youth, older adults, and residents in affordable housing were engaged, whether through community planning efforts, project needs identification, or during the project development process.*

*iii. Describe the progression of engagement activities in this project. A full response should answer these questions:*

The Arboretum Area Transportation Plan identified the vision for Highway 5 improvements through the cities of Victoria and Chanhassen. This project was identified as a high priority improvement to address existing regional commuter traffic operations and safety concerns while supporting the City of Victoria's development plans for the project area. The city has much growth planned for the Downtown Victoria area. The master plan calls for three phases with a total of 20,000 square feet of retail space, 300-plus units of residences in multifamily rental buildings and several owner-occupied townhomes, and public gathering space. The first phase will include a 149-unit apartment building. The proposed high-density development will allow more affordable housing options for varying income populations to enjoy the high quality of life the community has to offer.

**Response:**

As part of the planning process, the project and was informed with a thorough engagement plan guided by NEPA or Title VI regulations. Over 500 people attended in-person public/neighborhood meetings from June 2019-December 2020. Public meeting dates were strategic to engage at every decision-making milestone of the process. A community pop-up event was also held at the Victoria Classic Car Night that engaged seniors to children. Victoria Downtown Business meetings were also held. Online tools enabled providing feedback at personal convenience made the process accessible to families with children, seniors, and shift workers. Over 800 online surveys and comments were made on the web-based comment map. Each public meeting was followed with a study team response summary that documented the feedback. Concept development was influenced by this feedback, particularly for a safe pedestrian crossing from residential development west into Downtown Victoria and the regional trail system.



To engage communities impacted by the project and reach populations historically under-represented, participants at meetings received free U of M Landscape Arboretum access to attend (\$15 value per adult). This incentive generated wide public participation and provided access to an international tourism attraction to which all Highway 5 improvements will improve multi-modal access. The Arboretum provides benefits for equity populations which includes extensive youth education to a diverse body of over 36,000 students and free membership for over 2,500 social assistance eligible households in Carver, Scott, Dakota, Ramsey, and Hennepin Counties.

*(Limit 2,800 characters; approximately 400 words):*

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## **Measure B: Equity Population Benefits and Impacts**

*Describe the projects benefits to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Benefits could relate to:*

*This is not an exhaustive list. A full response will support the benefits claimed, identify benefits specific to Equity populations residing or engaged in activities near the project area, identify benefits addressing a transportation issue affecting Equity populations specifically identified through engagement, and substantiate benefits with data.*

*Acknowledge and describe any negative project impacts to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Describe measures to mitigate these impacts. Unidentified or unmitigated negative impacts may result in a reduction in points.*

*Below is a list of potential negative impacts. This is not an exhaustive list.*

The project will improve existing mobility and safety issues that non-motorized traffic face today. The lack of a cohesive and connected pedestrian network in the residential areas south of Highway 5 to cross Highway 5 results in a barrier effect, discouraging and restricting safe travel between this area and downtown Victoria, its amenities, and the regional trail system.

Existing safety and mobility issues on and surrounding Highway 5 not only impede regional commuter traffic but also development plans for high density residential and commercial development in downtown Victoria. The downtown master plan calls for three phases with a total of 20,000 square feet of retail space, 300-plus units of residences in multifamily rental buildings and several owner-occupied townhomes, and public gathering space. The first phase will include a 149-unit apartment building. The proposed high-density development will allow more affordable housing options for varying income populations to enjoy the high quality of life the community has to offer.

**Response:**

No pedestrian crossing facilities are present within the project area today. As part of the planning process, the study team prioritized active transportation options, access to outdoor recreation, and environmental benefits. As such, the project will include a new traffic signal at the Kochia Lane/Park Drive intersection, providing a controlled crossing of the highway to serve multi-modal crossings in a safe and efficient manner. A pedestrian refuge island with enhanced pedestrian crossing system is proposed at the 78th Street intersection along with a trail connection to the Lake Minnetonka Regional Trail providing access to the Lake Minnetonka Regional Trail, Carver Park Reserve, and downtown Victoria jobs and amenities.

The project will improve access to the Minnesota Landscape Arboretum, just east of the project area. This is a significant cultural resource to the Twin Cities and Minnesota. The Arboretum offers youth education field trips (~36,000 students/year) and the Plant Mobile program bringing programming to schools unable to travel to the Arboretum (~10,000 students/year). Roughly 1/3 of students receive assistance to visit (bus and tuition scholarships), which improves access for many lower income students. The Arboretum offers a complementary membership program for approximately 2,500 economically disadvantaged households throughout the Metro counties.

With increased safety and access for pedestrians and vehicles, no negative impacts are anticipated.

*(Limit 2,800 characters; approximately 400 words):*

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## **Measure C: Affordable Housing Access**

*Describe any affordable housing development existing, under construction, or planned within ½ mile of the proposed project. The applicant should note the number of existing subsidized units, which will be provided on the Socio-Economic Conditions map. Applicants can also describe other types of affordable housing (e.g., naturally-occurring affordable housing, manufactured housing) and under construction or planned affordable housing that is within a half mile of the project. If applicable, the applicant can provide self-generated PDF maps to support these additions. Applicants are encouraged to provide a self-generated PDF map describing how a project connects affordable housing residents to destinations (e.g., childcare, grocery stores, schools, places of worship).*

*Describe the project's benefits to current and future affordable housing residents within ½ mile of the project. Benefits must relate to affordable housing residents. Examples may include:*

*This is not an exhaustive list. Since residents of affordable housing are more likely not to own a private vehicle, higher points will be provided to roadway projects that include other multimodal access improvements. A full response will support the benefits claimed, identify benefits specific to residents of affordable housing, identify benefits addressing a transportation issue affecting residents of affordable housing specifically identified through engagement, and substantiate benefits with data.*

There are existing affordable housing options within and near the half-mile threshold surrounding the project area (see attached). In total, the City of Victoria has 457 naturally occurring affordable housing units. A new senior housing development was recently constructed less than a half mile from the project area; 11 of 52 units are affordable at or below 50% of AMI. This site provides independent living for adults with developmental disabilities. The Carver County CDA has been purchasing the single housing properties on Arboretum Blvd east of the project and west of CSAH 13 and rents the units at 60% of AMI. There are three scattered site public housing units where residents pay 30% of their income-one each on Marigold Cir, Fieldcreek Cir, and Victoria Dr. There are also Housing Choice Vouchers accepted by private landlords throughout the city.

**Response:**

In addition, the adjacent Downtown West master plan calls for three phases with a total of 20,000 square feet of retail space, 300-plus units of residences in multifamily rental buildings and several owner-occupied townhomes, and public gathering space. The first phase will include a 149-unit apartment building. The proposed high-density development will allow more affordable housing options for varying income populations to enjoy the high quality of life the community has to offer.

The proposed project will provide increased safety and access for pedestrians and vehicles where Highway 5 currently serves as a barrier to and from the core downtown area. Stieger Lake Lane just west of the project intersection provides access to the Lake Minnetonka Regional Trail, Carver Park Reserve, and downtown Victoria jobs and amenities.





Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

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### New Roadway Portion:

Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons:	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0.0

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### Measure B: Roadway projects that include railroad grade-separation elements

Cruise speed in miles per hour without the project:	0
Vehicle miles traveled without the project:	0
Total delay in hours without the project:	0
Total stops in vehicles per hour without the project:	0
Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons (F1)	0
Fuel consumption in gallons (F2)	0
Fuel consumption in gallons (F3)	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	

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### Measure A: Benefit of Crash Reduction

Crash Modification Factor Used:

CMF ID: 326 - Install a traffic signal

CMF ID: 7566 - Convert two-lane roadway to a four-lane divided roadway

(Limit 700 Characters; approximately 100 words)

CMF ID: 326 was selected since the project will install a traffic signal at the intersection of TH 5 and Park Dr/Kochia Ln. This crash modification factor shows a 77% crash reduction and applies to angle crash types and all crash severities. This CMF was applied to the one angle crash that resulted in a fatality at the intersection of TH 5 and Park Dr/Kochia Ln.

**Rationale for Crash Modification Selected:**

CMF ID 7566 was selected since the project will convert the existing two-lane roadway to a four-lane divided roadway. This crash modification factor shows a 65.88% crash reduction and applies to all crash types and severities. This CMF was applied to the six segment crashes that occurred along TH 5 between Park Dr/Kochia Ln and 78th St/Steiger Lake Ln.

(Limit 1400 Characters; approximately 200 words)

<b>Project Benefit (\$) from B/C Ratio:</b>	\$13,829,254.00
<b>Total Fatal (K) Crashes:</b>	1
<b>Total Serious Injury (A) Crashes:</b>	0
<b>Total Non-Motorized Fatal and Serious Injury Crashes:</b>	0
<b>Total Crashes:</b>	5
<b>Total Fatal (K) Crashes Reduced by Project:</b>	1
<b>Total Serious Injury (A) Crashes Reduced by Project:</b>	0
<b>Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:</b>	0
<b>Total Crashes Reduced by Project:</b>	3
<b>Worksheet Attachment</b>	1649965381352_TH 5 Steiger_Kochia_safety_packaged.pdf

Please upload attachment in PDF form.

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**Roadway projects that include railroad grade-separation elements:**

<b>Current AADT volume:</b>	0
<b>Average daily trains:</b>	0
<b>Crash Risk Exposure eliminated:</b>	0

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## Measure A: Pedestrian Safety

*Determine if these measures do not apply to your project. Does the project match either of the following descriptions?*

*If either of the items are checked yes, then **score for entire pedestrian safety measure is zero**. Applicant does not need to respond to the sub-measures and can proceed to the next section.*

**Project is primarily a freeway (or transitioning to a freeway) and does not provide safe and comfortable pedestrian facilities and crossings.** No

**Existing location lacks any pedestrian facilities (e.g., sidewalks, marked crossings, wide shoulders in rural contexts) and project does not add pedestrian elements (e.g., reconstruction of a roadway without sidewalks, that doesn't also add pedestrian crossings and sidewalk or sidepath on one or both sides).** No

### ***SUB-MEASURE 1: Project-Based Pedestrian Safety Enhancements and Risk Elements***

*To receive maximum points in this category, pedestrian safety countermeasures selected for implementation in projects should be, to the greatest extent feasible, consistent with the countermeasure recommendations in the Regional Pedestrian Safety Action Plan and state and national best practices. Links to resources are provided on the Regional Solicitation Resources web page.*

*Please answer the following two questions with as much detail as possible based on the known attributes of the proposed design. If any aspect referenced in this section is not yet determined, describe the range of options being considered, to the greatest extent available. If there are project elements that may increase pedestrian risk, describe how these risks are being mitigated.*

**1. Describe how this project will address the safety needs of people crossing the street at signalized intersections, unsignalized intersections, midblock locations, and roundabouts.**

*Treatments and countermeasures should be well-matched to the roadways context (e.g., appropriate for the speed, volume, crossing distance, and other location attributes). Refer to the Regional Solicitation Resources web page for guidance links.*

Highway 5 is a high-speed, high-volume roadway that features little to no pedestrian facilities within the project area and is a barrier to a large area of the city from accessing downtown Victoria and its commercial areas via non-motorized travel. Additionally, the downtown area lacks adequate parking spaces to serve all visitors traveling by vehicle, further discouraging visits to the downtown area. Kochia Lane and 78th Street both feature existing pedestrian facilities that end at the trunk highway and pedestrians must cross the highway at uncontrolled, unsigned, and unmarked locations or walk along the paved shoulder next to traffic often traveling at or above 55 mph. The project will expand the pedestrian network within the project limits by adding at-grade, controlled facilities to Park Drive and north of Highway 5 at 78th Street. The proposed traffic signal at Kochia Lane/Park Drive will serve as a new controlled crossing of the busy highway, serving all users with ADA compliant ramps, APS system components and a designated, marked crossing area. Lighting integral to the signal system will increase pedestrian visibility at night. At 78th Street where a right-in/right-out intersection is proposed, a center refuge island and enhanced pedestrian crossing system will be implemented to accommodate safe crossing of the east leg of the intersection. Proper enhanced crossing system will follow FHWA STEP and TEM guidance and system details will be determined during the next design phase. A new trail north of Highway 5 will connect this crossing to the existing RBTN Tier 1 Lake Minnetonka Regional Trail and to downtown Victoria. The project also adds 1,000 feet of new trail along Highway 5, a RBTN Tier 1 alignment. This new trail will connect to trail and underpass facilities to be constructed in 2015 by the TH 5 Arboretum Area Mobility and Access Improvement, providing connection to area parks, the University of Minnesota Landscape Arboretum, and beyond. The project is not adding trail along the entire

**Response:**

extend of TH 5 due to the proximity of the regional trail adjacent to the corridor and the proposed enhanced access and crossing to the regional trail.

*(Limit 2,800 characters; approximately 400 words)*

*Is the distance in between signalized intersections increasing (e.g., removing a signal)?*

**Select one:**

No

*If yes, describe what measures are being used to fill the gap between protected crossing opportunities for pedestrians (e.g., adding High-Intensity Activated Crosswalk beacons to help motorists yield and help pedestrians find a suitable gap for crossing, turning signal into a roundabout to slow motorist speed, etc.).*

**Response:**

*(Limit 1,400 characters; approximately 200 words)*

*Will your design increase the crossing distance or crossing time across any leg of an intersection? (e.g., by adding turn or through lanes, widening lanes, using a multi-phase crossing, prohibiting crossing on any leg of an intersection, pedestrian bridge requiring length detour, etc.). This does not include any increases to crossing distances solely due to the addition of bike lanes (i.e., no other through or turn lanes being added or widened).*

**Select one:**

Yes

*If yes,*

*How many intersections will likely be affected?*

**Response:**

2

*Describe what measures are being used to reduce exposure and delay for pedestrians (e.g., median crossing islands, curb bulb-outs, etc.)*

The two intersections currently do not provide any pedestrian facilities aiding in safe crossing of the hwy, as they are side-street stop-controlled intersections with high-speed, freeflow traffic on TH 5. Added signage, markings, signal systems, and lighting will all increase ped safety & offset the added exposure to traffic due to the expanded roadway. At Kochia Lane/Park Dr, the proposed signal system will provide a controlled crossing that is not provided under existing conditions and will improve having to cross 75 ft. of pavement without any crossing aid or signalization with vertical curve and sight distance issues and traffic at 55 mph. At 78th St, a center refuge island enabling pedestrians to make a two-stage crossing, simplifying the pedestrian interaction with traffic by allowing one direction of traffic to be crossed at one time. Further, an enhanced pedestrian crossing system will be installed at this location to bring added visibility to pedestrians and vehicle compliance in yielding to pedestrians within the crosswalk.

**Response:**

The ped. crossing amenities will be improved and decrease the pedestrian safety risk compared to existing conditions where pedestrians crossing from 78th St west to Downtown Victoria must wait for a gap traffic on TH 5 and attempt to cross 70 ft of pavement and then proceed along a rural ditch/shoulder area another 200+ ft to Stieger Lake Ln.

*(Limit 1,400 characters; approximately 200 words)*

*If grade separated pedestrian crossings are being added and increasing crossing time, describe any features that are included that will reduce the detour required of pedestrians and make the separated crossing a more appealing option (e.g., shallow tunnel that doesnt require much elevation change instead of pedestrian bridge with numerous switchbacks).*

**Response:**

*(Limit 1,400 characters; approximately 200 words)*

*If mid-block crossings are restricted or blocked, explain why this is necessary and how pedestrian crossing needs and safety are supported in other ways (e.g., nearest protected or enhanced crossing opportunity).*

**Response:**

No mid-block crossings exist today within the project area. The added trail east of Kochia Ln/Park Dr will connect to a pedestrian underpass of Highway 5 to be constructed in 2025 and connect to residential areas and a park south of the trunk highway. The underpass provides a more direct route from this residential and park area across Highway 5 rather than using Park Drive/Kochia Lane which will promote use and make it a worthwhile investment.

*(Limit 1,400 characters; approximately 200 words)*

**2. Describe how motorist speed will be managed in the project design, both for through traffic and turning movements.** Describe any project-related factors that may affect speed directly or indirectly, even if speed is not the intended outcome (e.g., wider lanes and turning radii to facilitate freight movements, adding turn lanes to alleviate peak hour congestion, etc.). Note any strategies or treatments being considered that are intended to help motorists drive slower (e.g., visual narrowing, narrow lanes, truck aprons to mitigate wide turning radii, etc.) or protect pedestrians if increasing motorist speed (e.g., buffers or other separation from moving vehicles, crossing treatments appropriate for higher speed roadways, etc.).

The proposed expansion of Highway 5 to a four-lane divided urban section will likely maintain the 55 mph existing. To ensure that pedestrians are provided a comfortable space to travel and cross the busy highway, several treatments are provided. A new traffic signal at the Kochia Lane/Park Drive intersection provides a controlled crossing of Highway 5 that does not exist today. At 78th Street, a raised center refuge island and new ADA-compliant pedestrian ramps on both sides of the crossing are provided while no crossing of TH 5 is provided today. An enhanced pedestrian crossing system will also be provided at the 78th Street crossing due to the high-speed nature of Highway 5. This system will follow FHWA STEP and TEM guidance for crossing locations of this nature. Finally, added trail facility on the north side of Highway 5 at 78th Street will provide connection to the existing Lake Minnetonka Regional Trail which serves regional and local trips, most notably to downtown Victoria. Under the existing conditions, 78th Street crossings must cross at an unmarked location and walk over 200 feet on the shoulder or grass next to the 55-mph traffic on Highway 5. This new crossing and trail connection eliminates the need for this dangerous interaction between vehicles and pedestrians.

**Response:**

*(Limit 2,800 characters; approximately 400 words)*

*If known, what are the existing and proposed design, operation, and posted speeds? Is this an increase or decrease from existing conditions?*

**Response:**

Existing and proposed design speeds are 55 mph.

*(Limit 1,400 characters; approximately 200 words)*

**SUB-MEASURE 2: Existing Location-Based Pedestrian Safety Risk Factors**

*These factors are based on based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following factors are present. Applicants receive more points if more risk factors are present.*

Existing road configuration is a One-way, 3+ through lanes  
or

Existing road configuration is a Two-way, 4+ through lanes

Existing road has a design speed, posted speed limit, or speed study/data showing 85th percentile travel speeds in excess of 30 MPH or more Yes

Existing road has AADT of greater than 15,000 vehicles per day Yes

List the AADT

15200

**SUB-MEASURE 3: Existing Location-Based Pedestrian Safety Exposure Factors**

*These factors are based on based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following existing location exposure factors are present. Applicants receive more points if more risk factors are present.*

**Existing road has transit running on or across it with 1+ transit stops in the project area (If flag-stop route with no fixed stops, then 1+ locations in the project area where roadside stops are allowed. Do not count portions of transit routes with no stops, such as non-stop freeway sections of express or limited-stop routes. If service was temporarily reduced for the pandemic but is expected to return to 2019 levels, consider 2019 service for this item.)**

**Existing road has high-frequency transit running on or across it and 1+ high-frequency stops in the project area (high-frequency defined as service at least every 15 minutes from 6am to 7pm weekdays and 9am to 6pm Saturdays. If service frequency was temporarily reduced for the pandemic but is expected to return to 2019 levels, consider 2019 frequency for this item.)**

**Existing road is within 500 of 1+ shopping, dining, or entertainment destinations (e.g., grocery store, restaurant)**

Yes

ENKI Brewing Taproom and Eatery is within 500' of the western project limits. This facility, located on Stieger Lake Lane, is a major attraction within the city and greater Carver County. The brewery provides the only craft beer experience in the city, serves food and frequently hosts corporate, private and public events. On-site parking is limited, as is parking in downtown Victoria. Locals who wish to walk to this destination would be well served by the proposed pedestrian crossing enhancements provided by the project through improved safety and mobility. Downtown Victoria has several other restaurants and commercial destinations adjacent to the project.

**If checked, please describe:**

*(Limit 1,400 characters; approximately 200 words)*

**Existing road is within 500 of other known pedestrian generators (e.g., school, civic/community center, senior housing, multifamily housing, regulatorily-designated affordable housing)** Yes

If checked, please describe:

Much of the areas immediately south of the project area are pedestrian generating low to medium density residential areas. These areas currently lack a dedicated crossing of Highway 5 to downtown Victoria and its amenities. A public park is located south of Highway 5 at the eastern project limits. The added trail facility north of the highway will connect to an underpass scheduled to be constructed in 2025 and provide safe connection to the park without need to cross the highway. This underpass and added trail will also connect the surrounding residential areas to the Lake Minnetonka Regional Trail north of the highway. With the proposed project, residents will have the option to cross the highway at-grade at the Kochia Ln/Park Dr signal or at the mid-block grade separated underpass. The project connects to Downtown Victoria home to a library, city hall, and other civic buildings and churches.

*(Limit 1,400 characters; approximately 200 words)*

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## **Measure A: Multimodal Elements and Existing Connections**



Existing pedestrian facilities in the project area terminate at Highway 5 and do not provide any type of crossing treatments, resulting in the highway acting as a barrier to non-motorized mobility. This barrier results in limited use of the nearby Lake Minnetonka Regional Trail and limited non-motorized mobility to downtown Victoria. The project improves the multi-modal experience by providing a more comfortable controlled crossing at Kochia Lane/Park Drive via a new traffic signal. At 78th Street, a raised center island provides a pedestrian refuge and allows for a two-stage crossing to be made by non-motorized users. An enhanced crossing system will also be provided at this location, improving pedestrian comfort by increasing visibility and vehicle yield rates. A new trail connection will be made from 78th Street to the existing Lake Minnetonka Regional Trail, which is identified as an RBTN Tier 1 corridor and serves connection from this isolated area of Victoria to the downtown area. New trail will extend from Kochia Ln/Park Dr to the eastern project limit and connect to pedestrian facilities to be constructed in 2025 which includes a pedestrian underpass of Highway 5 and trail continuing on the north side of Highway 5. ADA-compliant pedestrian ramps and infrastructure will be implemented throughout the project.

**Response:**

The project segment is not designated as an existing Expressway barrier in the Major River Bicycle Barrier Crossing (MRBBC); however, the Highway 5 east of the project location is identified as a Tier 2 barrier with similar conditions. This project will address the Highway 5 barrier between residents and access to Downtown Victoria.

There is no fixed route transit service in the project area as it is outside of the transit taxing district; however, transit benefits include increased travel time reliability for school buses (36,000+ students)

accessing the Arboretum every year and commuters accessing the nearby park and rides (SouthWest Transit's Chanhassen Transit Station and East Creek Transit Station. SouthWest Transit also services this area with on-demand transit service, SouthWest Prime including along the project corridor.

*(Limit 2,800 characters; approximately 400 words)*

---

## Transit Projects Not Requiring Construction

*If the applicant is completing a transit application that is operations only, check the box and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.*

*Park-and-Ride and other transit construction projects require completion of the Risk Assessment below.*

**Check Here if Your Transit Project Does Not Require Construction**

---

## Measure A: Risk Assessment - Construction Projects

### 1. Public Involvement (20 Percent of Points)

*Projects that have been through a public process with residents and other interested public entities are more likely than others to be successful. The project applicant must indicate that events and/or targeted outreach (e.g., surveys and other web-based input) were held to help identify the transportation problem, how the potential solution was selected instead of other options, and the public involvement completed to date on the project. The focus of this section is on the opportunity for public input as opposed to the quality of input. NOTE: A written response is required and failure to respond will result in zero points.*

**Multiple types of targeted outreach efforts (such as meetings or online/mail outreach) specific to this project with the general public and partner agencies have been used to help identify the project need.**

Yes

100%

**At least one meeting specific to this project with the general public has been used to help identify the project need.**

50%

**At least online/mail outreach effort specific to this project with the general public has been used to help identify the project need.**

50%

**No meeting or outreach specific to this project was conducted, but the project was identified through meetings and/or outreach related to a larger planning effort.**

25%

**No outreach has led to the selection of this project.**

0%

*Describe the type(s) of outreach selected for this project (i.e., online or in-person meetings, surveys, demonstration projects), the method(s) used to announce outreach opportunities, and how many people participated. Include any public website links to outreach opportunities.*

Completed in early 2021, the Arboretum Area Transportation Plan process identified the Highway 5 vision and was informed with a thorough engagement plan. Tools used included in-person neighborhood meetings and an online story map with surveys and comment map. Over 500 people attended three open houses, ten neighborhood focused meetings, and three stakeholder business/property owner meetings. Meetings were held on the following dates:

6/19/19,6/25/19,6/27/19,7/16/19,11/6/19,11/20/19,12/4/19,12/17/19, 3/11/20, 4/13/20, 5/29/20, 7/20/20,8/7/20,12/15//20. Public meeting dates were strategic to engage at decision-making milestones. A community pop-up event was held at the Victoria Classic Car Night on 9/4/19 that engaged seniors to children. Online tools enabled feedback at personal convenience, making the process accessible to families with children, seniors, and shift workers. Over 800 online surveys and comments on the web-based comment map were received.

**Response:**

To engage populations impacted by the project and reach those traditionally not engaged in transportation projects, two of the three open houses were held at the Arboretum and participants received free access to attend (\$15 value per adult). This incentive generated wide public participation.

An environmental screening was completed with the study and will inform future public engagement activities. As the proposed Highway 5 project moves into preliminary design, NEPA and Title VI regulations will guide engagement activities. Carver County and project partners look forward to building upon the vastly successful engagement activities to date. This includes more outreach to diverse student populations associated with the UofM Landscape Arboretum programs. The Arboretum

offers youth education (K-12) field trips (~36,000 students/year anticipated to be expanded by 30% up to 60,000 students annually) and the Plant Mobile program bringing programming to schools (~10,000 students/year).

Study website:

<https://www.co.carver.mn.us/departments/public-works/projects-studies/arboretum-area-transportation-plan>

Interactive StoryMap - click Highway 5 Vision on left hand side:

<https://bmi.maps.arcgis.com/apps/MapSeries/index.html?appid=179cfee78337400aaa37f8f8b31d208b>

Interactive Comment Map summary:

<https://www.co.carver.mn.us/home/showpublisheddocument/18350/636991260708330000>

Survey summary:

<https://www.co.carver.mn.us/home/showpublisheddocument/18469/637007653202300000>

All public meeting documents and summaries:

<https://www.co.carver.mn.us/departments/public-works/projects-studies/arboretum-area-transportation-plan/arboretum-area-transportation-plan-additional-information/-fsiteid-1>

*(Limit 2,800 characters; approximately 400 words)*

## **2. Layout (25 Percent of Points)**

*Layout includes proposed geometrics and existing and proposed right-of-way boundaries. A basic layout should include a base map (north arrow; scale; legend; \* city and/or county limits; existing ROW, labeled; existing signals; \* and bridge numbers\*) and design data (proposed alignments; bike and/or roadway lane widths; shoulder width; \* proposed signals; \* and proposed ROW). An aerial photograph with a line showing the projects termini does not suffice and will be awarded zero points. \*If applicable*

**Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties/MnDOT. If a MnDOT trunk highway is impacted, approval by MnDOT must have occurred to receive full points. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.**

100%

A layout does not apply (signal replacement/signal timing, stand-alone streetscaping, minor intersection improvements). Applicants that are not certain whether a layout is required should contact Colleen Brown at MnDOT Metro State Aid [colleen.brown@state.mn.us](mailto:colleen.brown@state.mn.us).

100%

For projects where MnDOT trunk highways are impacted and a MnDOT Staff Approved layout is required. Layout approved by the applicant and all impacted local jurisdictions (i.e., cities/counties), and layout review and approval by MnDOT is pending. A PDF of the layout must be attached along with letters from each jurisdiction to receive points. Yes

75%

Layout completed but not approved by all jurisdictions. A PDF of the layout must be attached to receive points.

50%

Layout has been started but is not complete. A PDF of the layout must be attached to receive points.

25%

Layout has not been started

0%

**Attach Layout**

1649880983311\_TH 5 at Kochia\_Park and 78th Stieger\_Proposed Figure.pdf

*Please upload attachment in PDF form.*

**Additional Attachments**

1649965236471\_Risk Assess\_letters-resolutions-combined-TH5Victoria.pdf

*Please upload attachment in PDF form.*

### 3.Review of Section 106 Historic Resources (15 Percent of Points)

No known historic properties eligible for or listed in the National Register of Historic Places are located in the project area, and project is not located on an identified historic bridge Yes

100%

There are historical/archeological properties present but determination of no historic properties affected is anticipated.

100%

Historic/archeological property impacted; determination of no adverse effect anticipated

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

Unsure if there are any historic/archaeological properties in the project area.

0%

Project is located on an identified historic bridge

#### 4.Right-of-Way (25 Percent of Points)

Right-of-way, permanent or temporary easements, and MnDOT agreement/limited-use permit either not required or all have been acquired

100%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - plat, legal descriptions, or official map complete

50%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels identified Yes

25%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels not all identified

0%

#### 5.Railroad Involvement (15 Percent of Points)

No railroad involvement on project or railroad Right-of-Way agreement is executed (include signature page, if applicable) Yes

100%

##### Signature Page

*Please upload attachment in PDF form.*

Railroad Right-of-Way Agreement required; negotiations have begun

50%

Railroad Right-of-Way Agreement required; negotiations have not begun.

0%

---

### Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	\$12,587,000.00
Enter Amount of the Noise Walls:	\$0.00
Total Project Cost subtract the amount of the noise walls:	\$12,587,000.00
Enter amount of any outside, competitive funding:	\$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	\$0.00

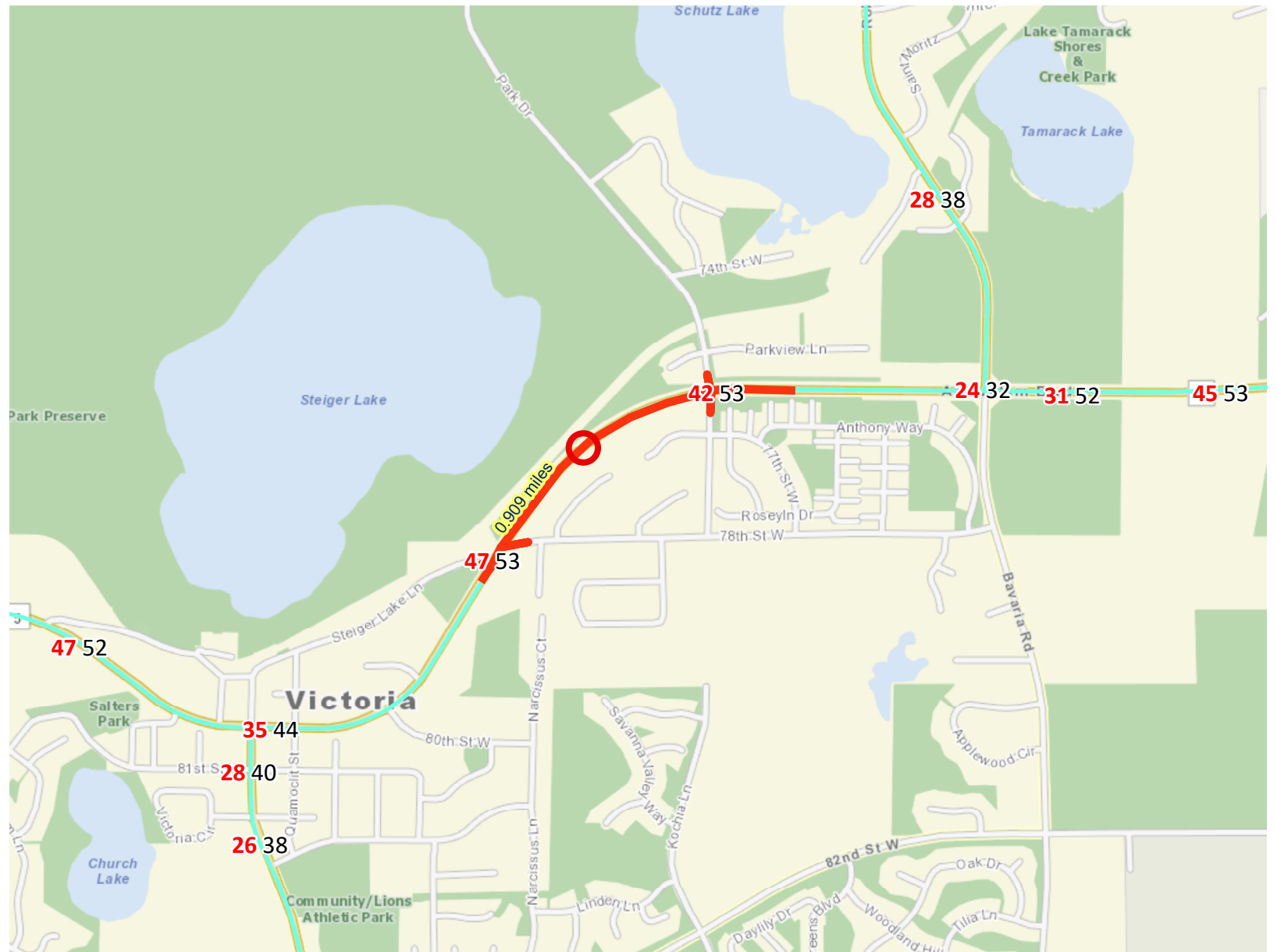
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### Other Attachments

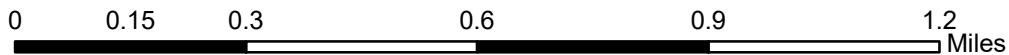
<b>File Name</b>	<b>Description</b>	<b>File Size</b>
Carver County Resolution 23-22 - signed.pdf	Carver County Resolution - Highway 5 Victoria	368 KB
City of Victoria 2022-03-28-Letter of Support.pdf	City of Victoria Letter of Support - Highway 5 Victoria Safety	90 KB
One Page Description Highway 5 Victoria Expansion Project.pdf	Project One Page Summary	301 KB
RS MnDOT Letter Carver Co TH 5 corridor.pdf	MnDOT Letter of Support	223 KB
TH 5 at Kochia_Park and 78th Stieger_Affordable Housing.pdf	Affordable Housing Figure	412 KB
TH 5 at Kochia_Park and 78th Stieger_Existing Conditions Photos.pdf	Existing Conditions Photos	439 KB
TH 5 at Kochia_Park and 78th Stieger_Existing Figure.pdf	Existing Conditions Layout	706 KB
TH 5 at Kochia_Park and 78th Stieger_Proposed Figure.pdf	Project Layout	722 KB

# Level of Congestion

Strategic Capacity Project: Highway 5 Victoria Mobility and Safety Improvement | Map ID: 1649165751948



- Project Points
- Project
- Principal Arterials
- - - Principal Arterials Planned
- A Minor Arterials
- - - A Minor Arterials Planned



Created: 4/5/2022  
LandscapeRSA1



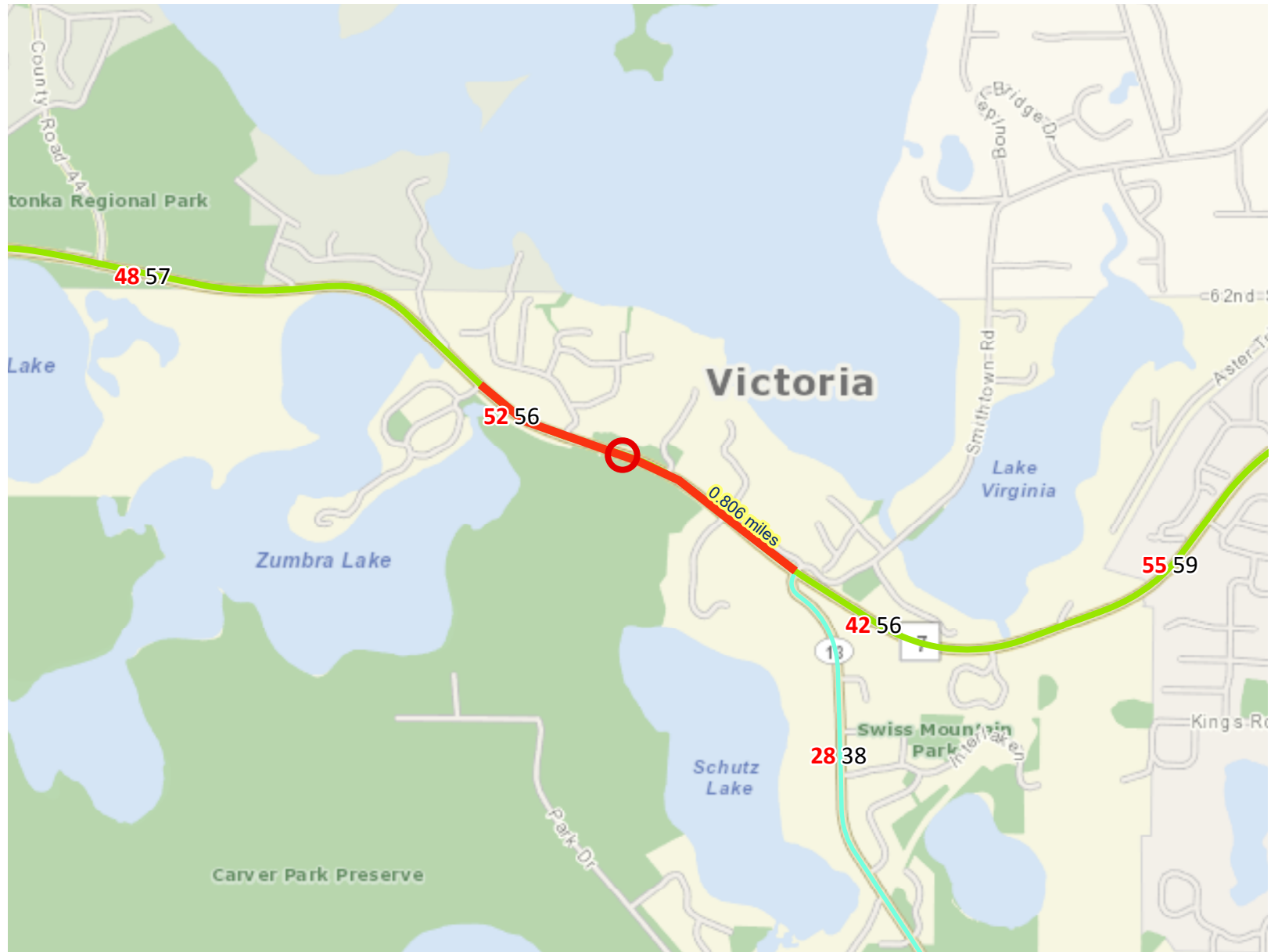
For complete disclaimer of accuracy, please visit <https://giswebsite.metc.state.mn.us/gisite/notice.aspx>





# Level of Congestion

Strategic Capacity Project: Highway 5 Victoria Mobility and Safety Improvement | Map ID: 1649878446825



 Project Points  Principal Arterials  Principal Arterials Planned

 Project  A Minor Arterials  A Minor Arterials Planned



Created: 4/13/2022  
LandscapeRSA1



For complete disclaimer of accuracy, please visit  
<https://giswebpage.metc.state.mn.us/gis/notice.aspx>



# Regional Economy

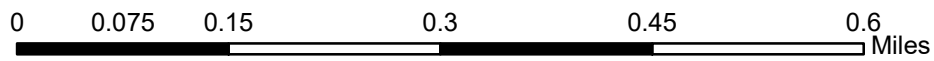
## Results

**WITHIN ONE MI** of project:  
Postsecondary Students: 0

Totals by City:  
**Victoria**  
Population: 5325  
Employment: 1146  
Mfg and Dist Employment: 141



- Project Points
- Project
- Manufacturing/Distribution Centers
- Job Concentration Centers



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LandscapeRSA5



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# Transit Connections

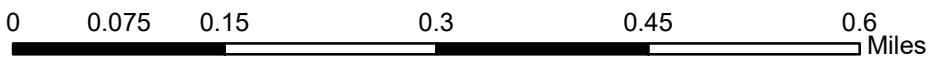
## Results

Transit with a Direct Connection to project:  
-- NONE --

\*indicates Planned Alignments

Transit Market areas: 4

- |  |                            |  |                             |  |                             |  |                             |  |                             |  |                           |
|--|----------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|--|---------------------------|
|  | Project Points             |  | Commuter Rail               |  | Commuter Rail               |  | Dedicated Bus Rapid Transit |  | Arterial Bus Rapid Transit  |  | Modern Streetcar          |
|  | Project                    |  | Dedicated Bus Rapid Transit |  | Dedicated Bus Rapid Transit |  | Highway Bus Rapid Transit   |  | Commuter Rail               |  | Undetermined              |
|  | Project Area               |  | Highway Bus Rapid Transit   |  | Highway Bus Rapid Transit   |  | Light Rail                  |  | Dedicated Bus Rapid Transit |  | Highway Bus Rapid Transit |
|  | Active Stop                |  | Light Rail                  |  | Light Rail                  |  | Modern Streetcar            |  | Highway Bus Rapid Transit   |  | Light Rail                |
|  | Arterial Bus Rapid Transit |  | Arterial Bus Rapid Transit  |  | Arterial Bus Rapid Transit  |  | Undetermined                |  | Light Rail                  |  |                           |



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LandscapeRSA3



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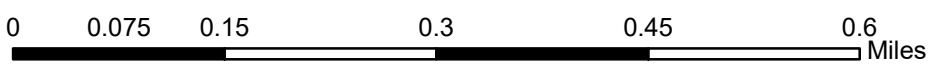
Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 69

Project located in census tracts that are BELOW the regional average for population in poverty or population of color.



○ Points    □ Area of Concentrated Poverty  
— Lines

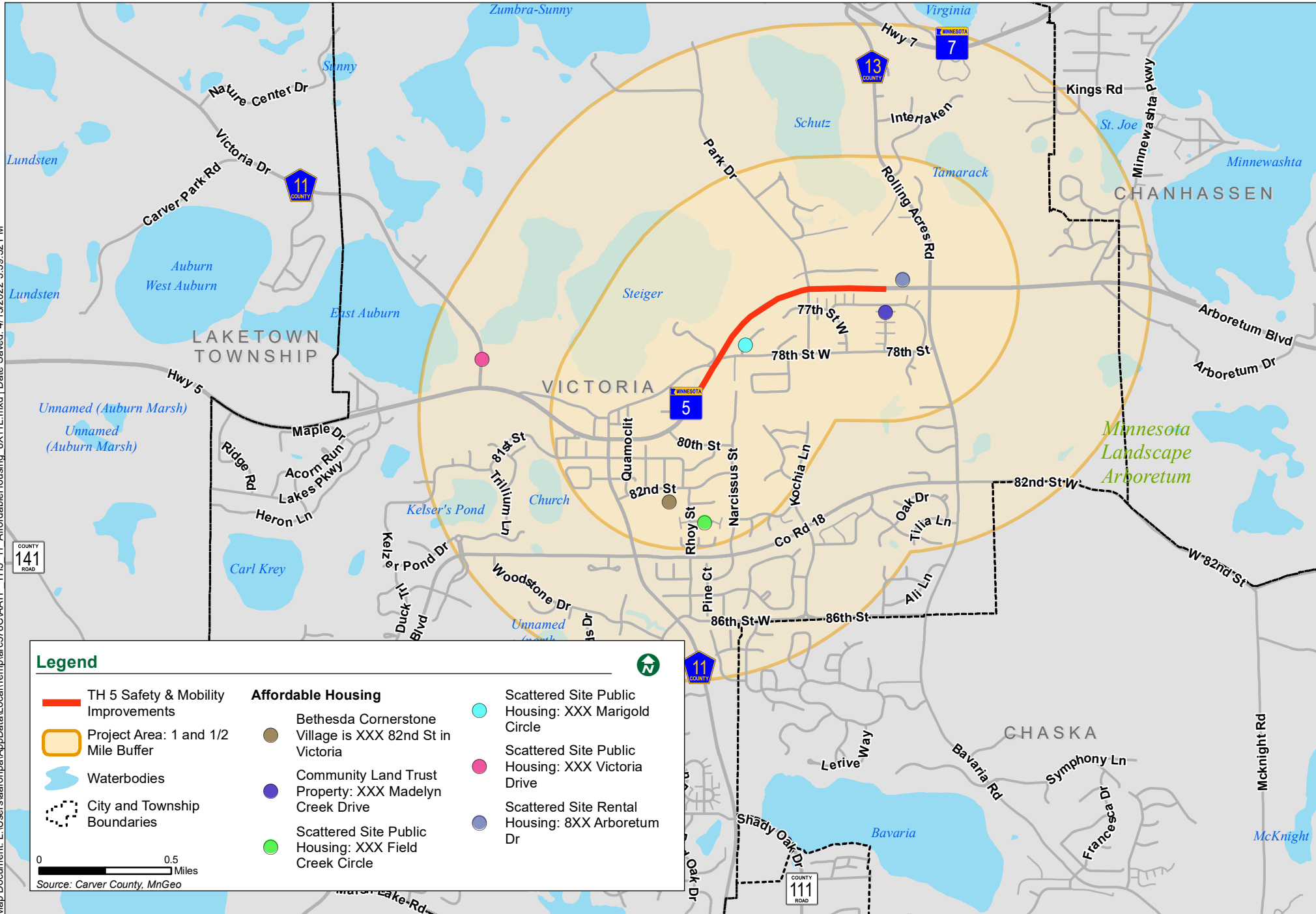


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LandscapeRSA2



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### Legend

- |                                     |   |  |
|-------------------------------------|---|--|
| TH 5 Safety & Mobility Improvements | <b>Affordable Housing</b>                               | Scattered Site Public Housing: XXX Marigold Circle |
| Project Area: 1 and 1/2 Mile Buffer | Bethesda Cornerstone Village is XXX 82nd St in Victoria | Scattered Site Public Housing: XXX Victoria Drive  |
| Waterbodies                         | Community Land Trust Property: XXX Madelyn Creek Drive  | Scattered Site Rental Housing: 8XX Arboretum Dr    |
| City and Township Boundaries        | Scattered Site Public Housing: XXX Field Creek Circle   |  |

0 0.5 Miles  
Source: Carver County, MnGeo

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↘			↑	↑	↗
Traffic Vol, veh/h	10	4	1	876	290	9
Future Vol, veh/h	10	4	1	876	290	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	50	25	93	83	38
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	16	8	4	942	349	24

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1299	349	373	0	-	0
Stage 1	349	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	177	692	1180	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	176	692	1180	-	-	-
Mov Cap-2 Maneuver	176	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	374	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1180	-	234	-	-
HCM Lane V/C Ratio	0.003	-	0.103	-	-
HCM Control Delay (s)	8.1	-	22.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑	↔		↑
Traffic Vol, veh/h	18	3	836	50	1	281
Future Vol, veh/h	18	3	836	50	1	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	64	38	92	69	25	77
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	28	8	909	72	4	365

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1282	909	0	0	981
Stage 1	909	-	-	-	-
Stage 2	373	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.14
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.236
Pot Cap-1 Maneuver	181	330	-	-	696
Stage 1	390	-	-	-	-
Stage 2	692	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	180	330	-	-	696
Mov Cap-2 Maneuver	180	-	-	-	-
Stage 1	390	-	-	-	-
Stage 2	687	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.9	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	200	696
HCM Lane V/C Ratio	-	-	0.18	0.006
HCM Control Delay (s)	-	-	26.9	10.2
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	0.6	0

Intersection

Int Delay, s/veh 29.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗		↘	↗		↔	
Traffic Vol, veh/h	6	826	7	7	268	6	1	0	75	50	6	13
Future Vol, veh/h	6	826	7	7	268	6	1	0	75	50	6	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	100	-	-	150	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	90	29	58	83	50	25	92	58	54	38	54
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	16	918	24	12	323	12	4	0	129	93	16	24

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	335	0	0	942
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.14	-	-	4.14
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.236	-	-	2.236
Pot Cap-1 Maneuver	1213	-	-	720
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1213	-	-	720
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	23.5	\$ 323.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	115	326	1213	-	-	720	-	-	93
HCM Lane V/C Ratio	0.035	0.397	0.013	-	-	0.017	-	-	1.424
HCM Control Delay (s)	37.4	23.1	8	-	-	10.1	-	-	\$ 323.3
HCM Lane LOS	E	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.1	1.8	0	-	-	0.1	-	-	9.9

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



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**Network Totals**

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Number of Intersections	3
Total Delay (hr)	7
Stops (#)	231
Average Speed (mph)	38
Total Travel Time (hr)	25
Distance Traveled (mi)	959
Fuel Consumed (gal)	39
Fuel Economy (mpg)	24.3
Unserviced Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	7.5

## 35: TH 5 &amp; Stieger Lake Ln (East)

Direction	EB	NB	SB	All
Future Volume (vph)	14	877	299	1190
Control Delay / Veh (s/v)	22	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	22	0	0	0
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	0.02	0.00	0.03
Stops (#)	14	17	0	31
Average Speed (mph)	12	54	56	53
Total Travel Time (hr)	0	3	0	4
Distance Traveled (mi)	2	176	16	194
Fuel Consumed (gal)	0	6	1	7
Fuel Economy (mpg)	NA	28.3	NA	27.8
CO Emissions (kg)	0.01	0.44	0.04	0.49
NOx Emissions (kg)	0.00	0.08	0.01	0.09
VOC Emissions (kg)	0.00	0.10	0.01	0.11
Unserviced Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

## 40: TH 5 &amp; 78th St

Direction	WB	NB	SB	All
Future Volume (vph)	21	886	282	1189
Control Delay / Veh (s/v)	27	0	0	1
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	27	0	0	1
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	0.00	0.04	0.03
Stops (#)	21	0	10	31
Average Speed (mph)	12	56	55	52
Total Travel Time (hr)	0	1	2	3
Distance Traveled (mi)	3	47	123	173
Fuel Consumed (gal)	0	2	4	6
Fuel Economy (mpg)	NA	29.9	28.5	27.7
CO Emissions (kg)	0.02	0.11	0.30	0.43
NOx Emissions (kg)	0.00	0.02	0.06	0.08
VOC Emissions (kg)	0.01	0.03	0.07	0.10
Unserviced Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

## 45: Kochia Ln/Park Dr &amp; TH 5

Direction	EB	WB	NB	SB	All
Future Volume (vph)	839	281	76	69	1265
Control Delay / Veh (s/v)	0	0	24	316	19
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	0	0	24	316	19
Total Delay (hr)	0	0	0	6	7
Stops / Veh	0.01	0.05	1.00	1.00	0.13
Stops (#)	10	14	76	69	169
Average Speed (mph)	55	55	16	4	33
Total Travel Time (hr)	7	3	1	7	18
Distance Traveled (mi)	365	184	18	26	593
Fuel Consumed (gal)	12	6	2	6	26
Fuel Economy (mpg)	29.4	28.6	11.7	4.4	22.6
CO Emissions (kg)	0.87	0.45	0.11	0.41	1.83
NOx Emissions (kg)	0.17	0.09	0.02	0.08	0.36
VOC Emissions (kg)	0.20	0.10	0.02	0.10	0.42
Unserviced Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

## Network Totals

Number of Intersections	3
Control Delay / Veh (s/v)	7
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	7
Total Delay (hr)	7
Stops / Veh	0.06
Stops (#)	231
Average Speed (mph)	38
Total Travel Time (hr)	25
Distance Traveled (mi)	959
Fuel Consumed (gal)	39
Fuel Economy (mpg)	24.3
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64
Unserviced Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	7.5

Lanes, Volumes, Timings  
 35: TH 5 & Stieger Lake Ln (East)

01/06/2022



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Volume (vph)	0	4	0	886	290	9
Future Volume (vph)	0	4	0	886	290	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Fr <sub>t</sub>		0.865				0.850
Fl <sub>t</sub> Protected						
Satd. Flow (prot)	0	1596	0	3505	3505	1568
Fl <sub>t</sub> Permitted						
Satd. Flow (perm)	0	1596	0	3505	3505	1568
Link Speed (mph)	30			55	55	
Link Distance (ft)	633			1062	278	
Travel Time (s)	14.4			13.2	3.4	
Peak Hour Factor	0.62	0.50	0.25	0.93	0.83	0.38
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	8	0	953	349	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	8	0	953	349	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.8%
	ICU Level of Service A
Analysis Period (min)	15

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	4	0	886	290	9
Future Vol, veh/h	0	4	0	886	290	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	50	25	93	83	38
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	8	0	953	349	24

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	175	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.96	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.33	-
Pot Cap-1 Maneuver	0	835	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			
Mov Cap-1 Maneuver	-	835	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	835	-	-
HCM Lane V/C Ratio	-	0.01	-	-
HCM Control Delay (s)	-	9.4	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Lanes, Volumes, Timings  
40: TH 5 & 78th St

01/06/2022



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕	↗		↕
Traffic Volume (vph)	0	3	836	50	0	299
Future Volume (vph)	0	3	836	50	0	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Fr <sub>t</sub>		0.865		0.850		
Fl <sub>t</sub> Protected						
Satd. Flow (prot)	0	1580	3471	1553	0	3471
Fl <sub>t</sub> Permitted						
Satd. Flow (perm)	0	1580	3471	1553	0	3471
Link Speed (mph)	30		55			55
Link Distance (ft)	760		278			2300
Travel Time (s)	17.3		3.4			28.5
Peak Hour Factor	0.64	0.38	0.92	0.69	0.25	0.77
Adj. Flow (vph)	0	8	909	72	0	388
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	8	909	72	0	388
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕	↗		↕
Traffic Vol, veh/h	0	3	836	50	0	299
Future Vol, veh/h	0	3	836	50	0	299
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	64	38	92	69	25	77
Heavy Vehicles, %	4	4	4	4	4	4
Mvmt Flow	0	8	909	72	0	388

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	455	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.98	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.34	-
Pot Cap-1 Maneuver	0	547	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	547	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	547
HCM Lane V/C Ratio	-	-	0.014
HCM Control Delay (s)	-	-	11.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

Lanes, Volumes, Timings  
45: Kochia Ln/Park Dr & TH 5

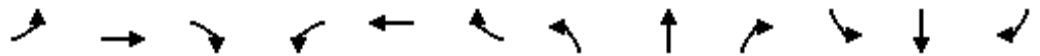
01/06/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	826	7	8	267	6	19	0	75	50	6	13
Future Volume (vph)	6	826	7	8	267	6	19	0	75	50	6	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	100		100	100		100
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	85			170			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3471	1553	1736	3471	1553	1736	1827	1553	1736	1827	1553
Flt Permitted	0.557			0.268			0.747			0.757		
Satd. Flow (perm)	1018	3471	1553	490	3471	1553	1365	1827	1553	1383	1827	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			119			119			253			119
Link Speed (mph)		55			55			30				30
Link Distance (ft)		2300			2296			1223				1986
Travel Time (s)		28.5			28.5			27.8				45.1
Peak Hour Factor	0.38	0.90	0.29	0.58	0.83	0.50	0.25	0.92	0.58	0.54	0.38	0.54
Adj. Flow (vph)	16	918	24	14	322	12	76	0	129	93	16	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	918	24	14	322	12	76	0	129	93	16	24
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	D.P+P	NA	Perm	D.P+P	NA	Perm	Perm		Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	8		4	4		8	2		2	6		6



Lanes, Volumes, Timings  
45: Kochia Ln/Park Dr & TH 5

01/06/2022

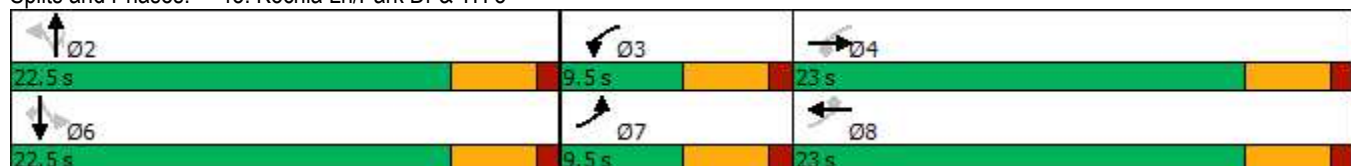


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	23.0	23.0	9.5	23.0	23.0	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (%)	17.3%	41.8%	41.8%	17.3%	41.8%	41.8%	40.9%	40.9%	40.9%	40.9%	40.9%	40.9%
Maximum Green (s)	5.0	18.5	18.5	5.0	18.5	18.5	18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0	0	0	0	0
Act Effct Green (s)	15.6	14.9	14.9	15.6	14.9	14.9	8.0		8.0	8.0	8.0	8.0
Actuated g/C Ratio	0.46	0.44	0.44	0.46	0.44	0.44	0.24		0.24	0.24	0.24	0.24
v/c Ratio	0.03	0.60	0.03	0.03	0.21	0.02	0.23		0.23	0.28	0.04	0.05
Control Delay	4.7	10.0	0.1	4.8	7.2	0.0	14.4		1.0	15.0	12.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	4.7	10.0	0.1	4.8	7.2	0.0	14.4		1.0	15.0	12.5	0.2
LOS	A	B	A	A	A	A	B		A	B	B	A
Approach Delay		9.7			6.8			6.0			12.0	
Approach LOS		A			A			A			B	

Intersection Summary

Area Type:	Other
Cycle Length:	55
Actuated Cycle Length:	33.7
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	8.8
Intersection LOS:	A
Intersection Capacity Utilization:	42.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 45: Kochia Ln/Park Dr & TH 5



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**Network Totals**

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Number of Intersections	3
Total Delay (hr)	3
Stops (#)	746
Average Speed (mph)	45
Total Travel Time (hr)	22
Distance Traveled (mi)	969
Fuel Consumed (gal)	48
Fuel Economy (mpg)	20.1
Unserviced Vehicles (#)	0
Vehicles in dilemma zone (#)	141
Performance Index	5.3

## 35: TH 5 &amp; Stieger Lake Ln (East)

Direction	EB	NB	SB	All
Future Volume (vph)	4	886	299	1189
Control Delay / Veh (s/v)	9	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	9	0	0	0
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	0.00	0.00	0.00
Stops (#)	4	0	0	4
Average Speed (mph)	18	55	56	55
Total Travel Time (hr)	0	3	0	4
Distance Traveled (mi)	0	178	16	194
Fuel Consumed (gal)	0	6	1	7
Fuel Economy (mpg)	NA	29.9	NA	29.7
CO Emissions (kg)	0.00	0.42	0.04	0.46
NOx Emissions (kg)	0.00	0.08	0.01	0.09
VOC Emissions (kg)	0.00	0.10	0.01	0.11
Unserviced Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

## 40: TH 5 &amp; 78th St

Direction	WB	NB	SB	All
Future Volume (vph)	3	886	299	1188
Control Delay / Veh (s/v)	12	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	12	0	0	0
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	0.00	0.00	0.00
Stops (#)	3	0	0	3
Average Speed (mph)	18	56	55	55
Total Travel Time (hr)	0	1	2	3
Distance Traveled (mi)	0	47	130	177
Fuel Consumed (gal)	0	2	4	6
Fuel Economy (mpg)	NA	29.9	29.9	29.8
CO Emissions (kg)	0.00	0.11	0.30	0.42
NOx Emissions (kg)	0.00	0.02	0.06	0.08
VOC Emissions (kg)	0.00	0.03	0.07	0.10
Unserviced Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

## 45: Kochia Ln/Park Dr &amp; TH 5

Direction	EB	WB	NB	SB	All
Future Volume (vph)	839	281	94	69	1283
Control Delay / Veh (s/v)	10	7	4	12	9
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	10	7	4	12	9
Total Delay (hr)	2	1	0	0	3
Stops / Veh	0.64	0.51	0.16	0.65	0.58
Stops (#)	535	144	15	45	739
Average Speed (mph)	41	47	26	24	40
Total Travel Time (hr)	9	4	1	1	15
Distance Traveled (mi)	365	184	22	26	597
Fuel Consumed (gal)	24	9	1	1	36
Fuel Economy (mpg)	15.3	19.9	20.7	17.5	16.8
CO Emissions (kg)	1.67	0.64	0.07	0.10	2.49
NOx Emissions (kg)	0.32	0.13	0.01	0.02	0.48
VOC Emissions (kg)	0.39	0.15	0.02	0.02	0.58
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	108	33	0	0	141

## Network Totals

Number of Intersections	3
Control Delay / Veh (s/v)	3
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	3
Total Delay (hr)	3
Stops / Veh	0.20
Stops (#)	746
Average Speed (mph)	45
Total Travel Time (hr)	22
Distance Traveled (mi)	969
Fuel Consumed (gal)	48
Fuel Economy (mpg)	20.1
CO Emissions (kg)	3.36
NOx Emissions (kg)	0.65
VOC Emissions (kg)	0.78
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	141
Performance Index	5.3

Timing Report, Sorted By Phase  
45: Kochia Ln/Park Dr & TH 5

Timing Plan: AM Peak  
03/09/2022

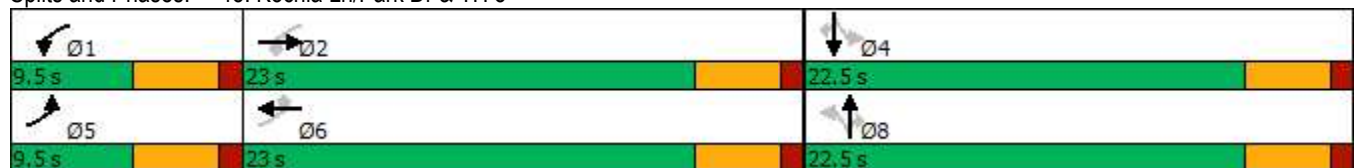


Phase Number	1	2	4	5	6	8
Movement	WBL	EBWB	SBTL	EBL	EBWB	NBTL
Lead/Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	None	Min	None	None	Min
Maximum Split (s)	9.5	23	22.5	9.5	23	22.5
Maximum Split (%)	17.3%	41.8%	40.9%	17.3%	41.8%	40.9%
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1	1	1	1	1	1
Minimum Initial (s)	5	5	5	5	5	5
Vehicle Extension (s)	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)		7	7		7	7
Flash Dont Walk (s)		11	11		11	11
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	0	9.5	32.5	0	9.5	32.5
End Time (s)	9.5	32.5	0	9.5	32.5	0
Yield/Force Off (s)	5	28	50.5	5	28	50.5
Yield/Force Off 170(s)	5	17	50.5	5	17	50.5
Local Start Time (s)	45.5	0	23	45.5	0	23
Local Yield (s)	50.5	18.5	41	50.5	18.5	41
Local Yield 170(s)	50.5	7.5	41	50.5	7.5	41

Intersection Summary

Cycle Length	55
Control Type	Actuated-Uncoordinated
Natural Cycle	55

Splits and Phases: 45: Kochia Ln/Park Dr & TH 5



**35: TH 5 & Stieger Lake Ln (East)**

Direction	All
Future Volume (vph)	1189
Total Delay (hr)	0
CO Emissions (kg)	0.46
NOx Emissions (kg)	0.09
VOC Emissions (kg)	0.11

**40: TH 5 & 78th St**

Direction	All
Future Volume (vph)	1188
Total Delay (hr)	0
CO Emissions (kg)	0.42
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

**45: Kochia Ln/Park Dr & TH 5**

Direction	All
Future Volume (vph)	1283
Total Delay (hr)	3
CO Emissions (kg)	2.49
NOx Emissions (kg)	0.48
VOC Emissions (kg)	0.58

**Network Totals**

Number of Intersections	3
Total Delay (hr)	3
CO Emissions (kg)	3.36
NOx Emissions (kg)	0.65
VOC Emissions (kg)	0.78
Performance Index	5.3

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**35: TH 5 & Stieger Lake Ln (East)**


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Direction	All
Future Volume (vph)	1190
Total Delay (hr)	0
CO Emissions (kg)	0.49
NOx Emissions (kg)	0.09
VOC Emissions (kg)	0.11

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**40: TH 5 & 78th St**


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Direction	All
Future Volume (vph)	1189
Total Delay (hr)	0
CO Emissions (kg)	0.43
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

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**45: Kochia Ln/Park Dr & TH 5**


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Direction	All
Future Volume (vph)	1265
Total Delay (hr)	7
CO Emissions (kg)	1.83
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.42

---

**Network Totals**


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Number of Intersections	3
Total Delay (hr)	7
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64
Performance Index	7.5

**Traffic Safety Benefit-Cost Calculation**

Highway Safety Improvement Program (HSIP) Reactive Project



**A. Roadway Description**

Route	TH 5	District	Metro	County	Carver
Begin RP	Park-Kochia	End RP	78th-Steiger	Miles	0.600
Location	City of Victoria				

**B. Project Description**

Proposed Work	Convert 2 lane roadway to a 4 lane divided roadway, install signal		
Project Cost*	\$12,587,000	Installation Year	2026
Project Service Life	20 years	Traffic Growth Factor	3.6%

\* exclude Right of Way from Project Cost

**C. Crash Modification Factor**

Fatal (K) Crashes	Reference	SEE ATTACHED BCA WORKSHEETS
Serious Injury (A) Crashes		
Moderate Injury (B) Crashes	Crash Type	
Possible Injury (C) Crashes		
Property Damage Only Crashes		<a href="http://www.CMFClearinghouse.org">www.CMFClearinghouse.org</a>

**D. Crash Modification Factor (optional second CMF)**

Fatal (K) Crashes	Reference	SEE ATTACHED BCA WORKSHEETS
Serious Injury (A) Crashes		
Moderate Injury (B) Crashes	Crash Type	
Possible Injury (C) Crashes		
Property Damage Only Crashes		<a href="http://www.CMFClearinghouse.org">www.CMFClearinghouse.org</a>

**E. Crash Data**

Begin Date	1/1/2019	End Date	12/31/2021	3 years
Data Source				
Crash Severity	< enter target crashes >	< optional 2nd CMF >		
K crashes				
A crashes				
B crashes				
C crashes				
PDO crashes				

**F. Benefit-Cost Calculation**

\$13,829,254	Benefit (present value)	<b>B/C Ratio = 1.10</b>
\$12,587,000	Cost	

Proposed project expected to reduce 0 crashes annually, 0 of which involving fatality or serious injury.



### Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project



#### A. Roadway Description

Route	TH 5	District	Metro	County	Carver
Begin RP	Park-Kochia	End RP	78th-Steiger	Miles	0.600
Location	City of Victoria				

#### B. Project Description

Proposed Work	Convert 2 lane roadway to a 4 lane divided roadway		
Project Cost*		Installation Year	2026
Project Service Life	20 years	Traffic Growth Factor	3.6%

\* exclude Right of Way from Project Cost

#### C. Crash Modification Factor

0.34	Fatal (K) Crashes	Reference	CMF ID: 7566
0.34	Serious Injury (A) Crashes		
0.34	Moderate Injury (B) Crashes	Crash Type	All
0.34	Possible Injury (C) Crashes		
0.34	Property Damage Only Crashes		<a href="http://www.CMFclearinghouse.org">www.CMFclearinghouse.org</a>

#### D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	Reference	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	Crash Type	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		<a href="http://www.CMFclearinghouse.org">www.CMFclearinghouse.org</a>

#### E. Crash Data

Begin Date	1/1/2019	End Date	12/31/2021	3 years
Data Source				
Crash Severity	All	< optional 2nd CMF >		
K crashes				
A crashes				
B crashes	2			
C crashes	1			
PDO crashes	3			

#### F. Benefit-Cost Calculation

\$3,609,678	Benefit (present value)	<b>B/C Ratio = N/A</b>
\$0	Cost	

Proposed project expected to reduce 2 crashes annually, 0 of which involving fatality or serious injury.

#### F. Analysis Assumptions



# Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project



## A. Roadway Description

Route	TH 5 at Park-Kochia	District	Metro	County	Carver
Begin RP		End RP		Miles	
Location	City of Victoria				

## B. Project Description

Proposed Work	Install Signal		
Project Cost*		Installation Year	2026
Project Service Life	20 years	Traffic Growth Factor	3.6%

\* exclude Right of Way from Project Cost

## C. Crash Modification Factor

0.23	Fatal (K) Crashes	Reference	CMF ID: 326
0.23	Serious Injury (A) Crashes		
0.23	Moderate Injury (B) Crashes	Crash Type	Angle
0.23	Possible Injury (C) Crashes		
0.23	Property Damage Only Crashes		<a href="http://www.CMFclearinghouse.org">www.CMFclearinghouse.org</a>

## D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	Reference	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	Crash Type	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		<a href="http://www.CMFclearinghouse.org">www.CMFclearinghouse.org</a>

## E. Crash Data

Begin Date	1/1/2019	End Date	12/31/2021	3 years
Data Source				
	Crash Severity	Angle	< optional 2nd CMF >	
	K crashes	1		
	A crashes			
	B crashes			
	C crashes			
	PDO crashes			

## F. Benefit-Cost Calculation

\$10,219,576	Benefit (present value)	<b>B/C Ratio = N/A</b>
\$0	Cost	

Proposed project expected to reduce 1 crashes annually, 1 of which involving fatality or serious injury.

### F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	\$1,500,000
A crashes	\$750,000
B crashes	\$230,000
C crashes	\$120,000
PDO crashes	\$13,000

Link: [mndot.gov/planning/program/appendix\\_a.html](http://mndot.gov/planning/program/appendix_a.html)

Real Discount Rate: 0.7% Revised  
 Traffic Growth Rate: 3.6% Revised  
 Project Service Life: 20 years Revised

### G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.77	0.26	\$385,000
A crashes	0.00	0.00	\$0
B crashes	0.00	0.00	\$0
C crashes	0.00	0.00	\$0
PDO crashes	0.00	0.00	\$0
			<b>\$385,000</b>

### H. Amortized Benefit

Year	Crash Benefits	Present Value
2026	\$385,000	\$385,000
2027	\$398,860	\$396,087
2028	\$413,219	\$407,494
2029	\$428,095	\$419,229
2030	\$443,506	\$431,302
2031	\$459,472	\$443,723
2032	\$476,013	\$456,502
2033	\$493,150	\$469,648
2034	\$510,903	\$483,173
2035	\$529,296	\$497,088
2036	\$548,351	\$511,403
2037	\$568,091	\$526,131
2038	\$588,542	\$541,283
2039	\$609,730	\$556,871
2040	\$631,680	\$572,908
2041	\$654,421	\$589,407
2042	\$677,980	\$606,381
2043	\$702,387	\$623,843
2044	\$727,673	\$641,809
2045	\$753,869	\$660,292
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

**Total = \$10,219,576**

*NOTE:  
 This calculation relies on the real discount rate, which accounts for inflation. No further discounting is necessary.*



## CMF / CRF Details

CMF ID: 326

Install a traffic signal

Description:

Prior Condition: *No Prior Condition(s)*

Category: Intersection traffic control

Study: [Accident Modification Factors for Traffic Engineering and ITS Improvements, Harkey et al., 2008](#)

Star Quality Rating:



### Crash Modification Factor (CMF)

Value: 0.23

Adjusted Standard Error: 0.02

Unadjusted Standard Error: 0.02

### Crash Reduction Factor (CRF)

Value: 77 (This value indicates a **decrease** in crashes)

Adjusted Standard Error: 2

**Unadjusted Standard Error:**

2

### Applicability

**Crash Type:**

Angle

**Crash Severity:**

All

**Roadway Types:**

Not Specified

**Number of Lanes:**

**Road Division Type:**

**Speed Limit:**

**Area Type:**

Rural

**Traffic Volume:**

**Time of Day:**

### *If countermeasure is intersection-based*

**Intersection Type:**

Roadway/roadway (not interchange related)

**Intersection Geometry:**

3-leg,4-leg

**Traffic Control:**

Stop-controlled

**Major Road Traffic Volume:**

3261 to 29926 Annual Average Daily Traffic (AADT)

**Minor Road Traffic Volume:**

101 to 10300 Annual Average Daily Traffic (AADT)

### Development Details

**Date Range of Data Used:**

**Municipality:**

**State:**

<b>Country:</b>	
<b>Type of Methodology Used:</b>	2
<b>Sample Size Used:</b>	

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	Yes. HSM lists this CMF in <b>bold</b> font to indicate that it has the highest reliability since it has an adjusted standard error of 0.1 or less.
<b>Date Added to Clearinghouse:</b>	Dec-01-2009
<b>Comments:</b>	Countermeasure name changed to match HSM

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This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

*The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.*



# CMF / CRF Details

CMF ID: 7566

Convert 2 lane roadway to 4 lane divided roadway

**Description:** Conversion of urban and rural two-lane roadways to four-lane divided roadways

**Prior Condition:** 2 lane roadway

**Category:** Roadway

**Study:** [Evaluation of the Safety Effectiveness of the Conversion of Two-Lane Roadways to Four-Lane Divided Roadways: Bayesian vs. Empirical Bayes, Ahmed et al., 2015](#)

Star Quality Rating:	
<input type="text" value="X"/>	<a href="#">[View score details]</a>

Crash Modification Factor (CMF)	
Value:	0.341
Adjusted Standard Error:	
Unadjusted Standard Error:	0.091

Crash Reduction Factor (CRF)	
Value:	65.88 (This value indicates a <b>decrease</b> in crashes)
Adjusted Standard Error:	
Unadjusted Standard Error:	9.05



**Applicability**

<b>Crash Type:</b>	All
<b>Crash Severity:</b>	All
<b>Roadway Types:</b>	Not specified
<b>Number of Lanes:</b>	2
<b>Road Division Type:</b>	Undivided
<b>Speed Limit:</b>	
<b>Area Type:</b>	Urban
<b>Traffic Volume:</b>	
<b>Time of Day:</b>	All

***If countermeasure is intersection-based***

<b>Intersection Type:</b>	
<b>Intersection Geometry:</b>	
<b>Traffic Control:</b>	
<b>Major Road Traffic Volume:</b>	
<b>Minor Road Traffic Volume:</b>	

**Development Details**

<b>Date Range of Data Used:</b>	2002 to 2012
<b>Municipality:</b>	
<b>State:</b>	FL
<b>Country:</b>	USA

<b>Type of Methodology Used:</b>	2
<b>Sample Size Used:</b>	

<b>Other Details</b>	
<b>Included in Highway Safety Manual?</b>	No
<b>Date Added to Clearinghouse:</b>	Nov-01-2015
<b>Comments:</b>	

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# Crash Case Listing

## TH 5 Gap Project

Route System	Route Number	Measure	Co	City	Incident Number	Date	Time	Day of Week	Basic Type	Num Veh	Sev
03-MNTH	5	41.456	10	Chanhassen	00890520	02/13/21	1750	SAT	SSS	2	N
03-MNTH	5	41.595	10	Chanhassen	00904188	05/06/21	1618	THU	Rear End	3	N
03-MNTH	5	41.605	10	Chanhassen	00732619	07/10/19	1620	WED	Rear End	2	N
03-MNTH	5	41.783	10	Chanhassen	00678767	01/24/19	1800	THU	Rear End	3	B
03-MNTH	5	41.817	10	Chanhassen	00868638	12/17/20	1710	THU	Rear End	2	C
03-MNTH	5	41.837	10	Chanhassen	00938678	09/05/21	1648	SUN	SVROR	1	N
03-MNTH	5	41.854	10	Chanhassen	00860666	11/01/20	2045	SUN	Other	1	N
03-MNTH	5	41.862	10	Chanhassen	00967067	10/15/21	1545	FRI	Rear End	3	N
03-MNTH	5	41.937	10	Chanhassen	00890867	02/13/21	1829	SAT	Rear End	6	C
03-MNTH	5	42.095	10	Chanhassen	00974682	11/10/21	1520	WED	SVROR	1	N
03-MNTH	5	42.157	10	Chanhassen	00934969	08/17/21	1500	TUE	Rear End	2	N
03-MNTH	5	42.161	10	Chanhassen	00724253	06/01/19	1915	SAT	SSS	2	N
03-MNTH	5	42.185	10	Chanhassen	00903655	04/30/21	1944	FRI	Rear End	2	N
03-MNTH	5	42.189	10	Chanhassen	00842972	09/25/20	1559	FRI	Rear End	2	N
03-MNTH	5	42.259	10	Chanhassen	00765191	11/25/19	1645	MON	SSS	2	N
10-MUN	565	0.925	10	Chanhassen	00720544	05/16/19	2205	THU	Other	1	N

Selection Filter:

WORK AREA: County('659455') - FILTER: Year('2019','2020','2021') - SPATIAL FILTER APPLIED

Analyst:

Notes:

Jacob Bongard

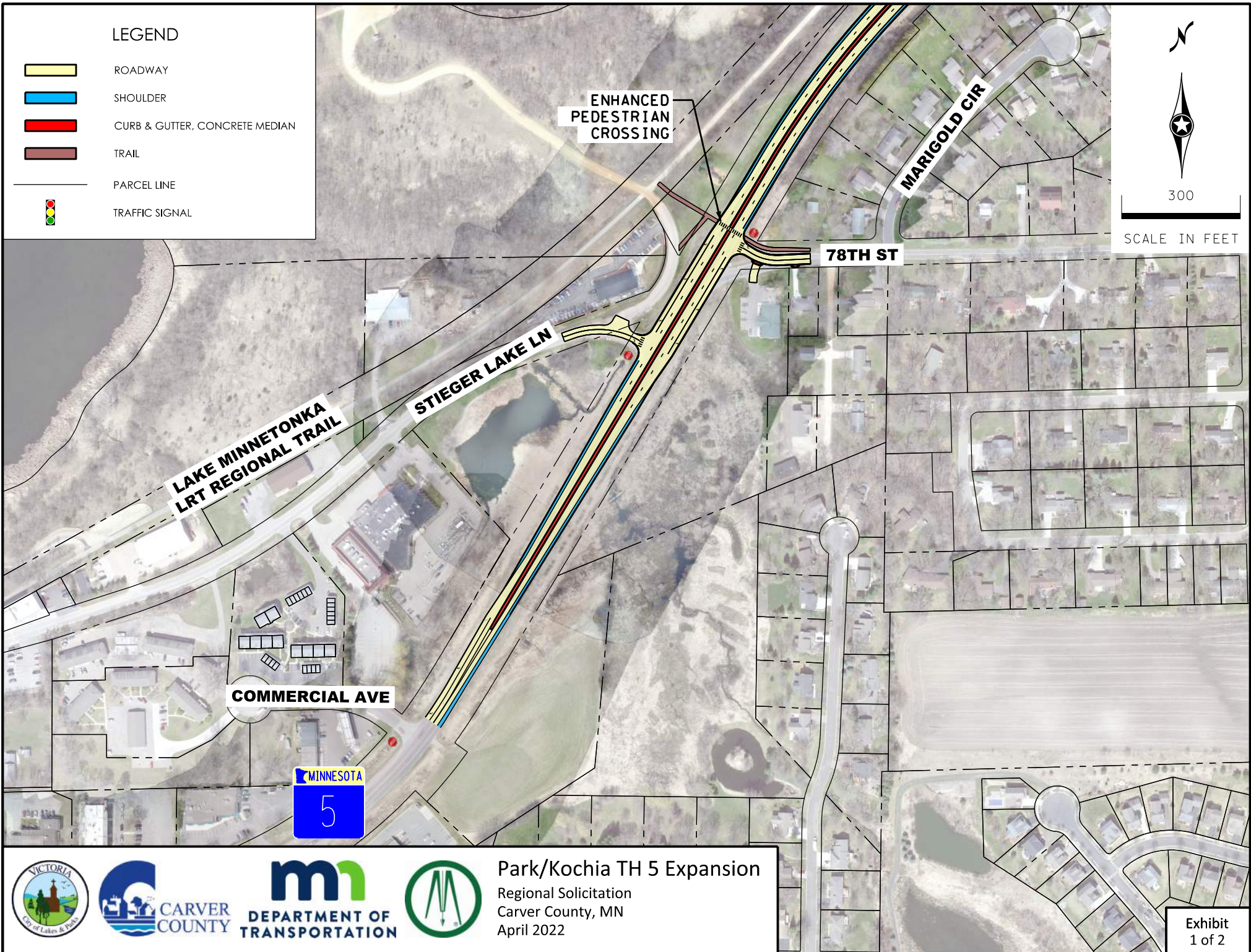
LEGEND

- ROADWAY
- SHOULDER
- CURB & GUTTER, CONCRETE MEDIAN
- TRAIL
- PARCEL LINE
- TRAFFIC SIGNAL



300

SCALE IN FEET



Park/Kochia TH 5 Expansion  
Regional Solicitation  
Carver County, MN  
April 2022

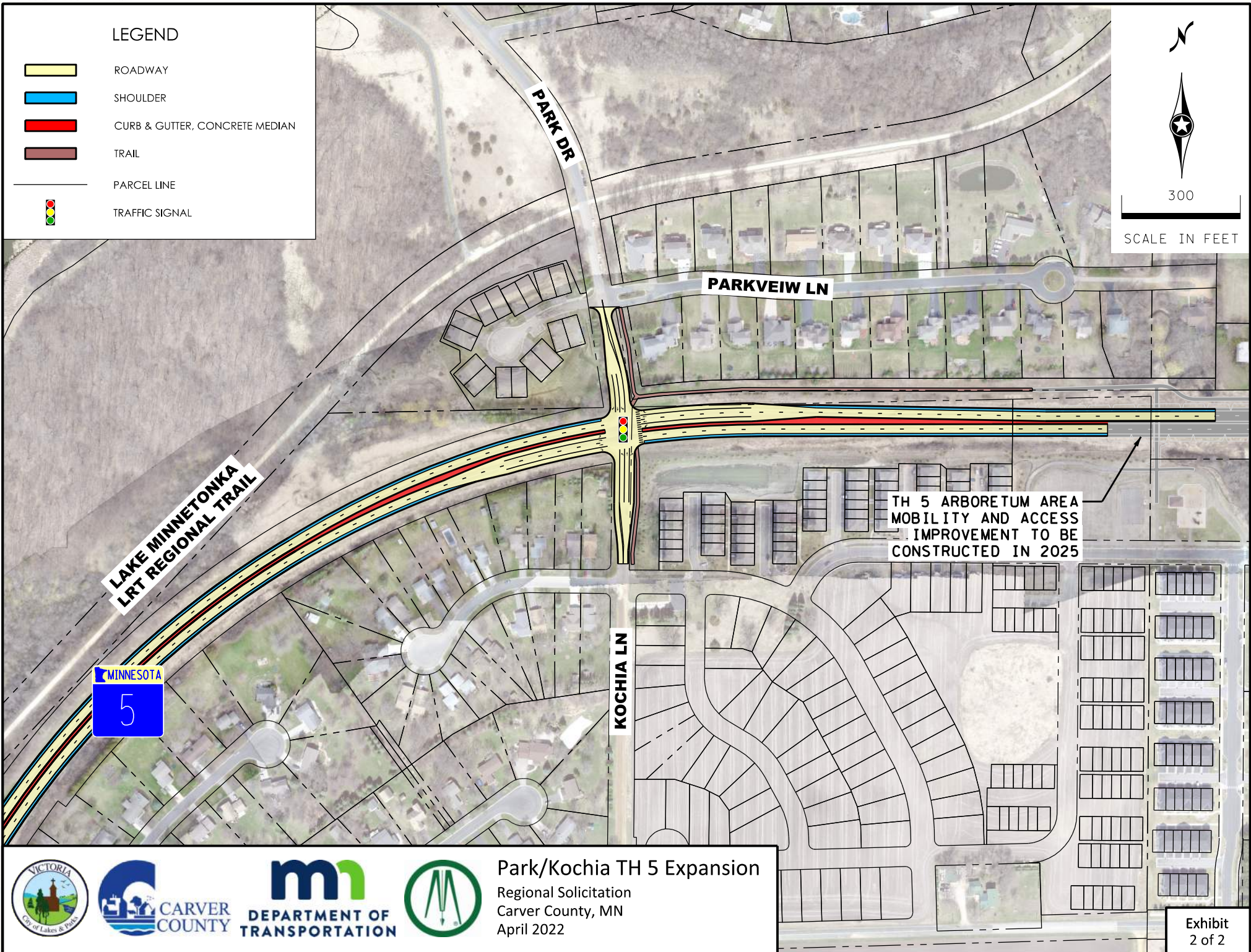
LEGEND

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SCALE IN FEET



TH 5 ARBORETUM AREA  
MOBILITY AND ACCESS  
IMPROVEMENT TO BE  
CONSTRUCTED IN 2025



Park/Kochia TH 5 Expansion  
Regional Solicitation  
Carver County, MN  
April 2022



**Carver County  
Public Works**

11360 Highway 212, Suite 1  
Cologne, MN 55322

April 14, 2022

Elaine Koutsoukos  
TAB Coordinator  
METROPOLITAN COUNCIL  
390 Robert St. N  
St. Paul, MN 55101

**SUBJECT: Highway 5 Victoria Mobility and Safety Improvement Project Risk Assessment  
Layout Approval Letter**

Dear Ms. Koutsoukos:

This letter is to confirm the County's agreement with and approval to date of the attached layout for the Highway 5 Victoria Mobility and Safety Improvement Project. The project has undergone substantial study and coordination with project partners. The County led and partnered on the development of the layout with MnDOT and the City of Victoria through the Arboretum Area Transportation Plan corridor study planning process, and we are aware of the details specified in the application attachment.

As a roadway owner, MnDOT also provided the required letter of support for the project and has conducted additional scoping work as part of the layout development. MnDOT was the funding lead on the Arboretum Area Transportation Plan, investing approximately \$500,000 in the study and directing the development of the approved concept vision and layout. The City of Victoria submitted a letter of support for the project, and like the County, adopted the Arboretum Area Transportation Plan in 2021 by resolution.

The County is committed to continuing to work with MnDOT and the City of Victoria to complete the final layout approval engineering process for the Highway 5 Victoria Mobility and Safety Improvement Project in the coming months.

Sincerely,

Lyndon Robjent, P.E.  
Public Works Director/County Engineer

CARVER COUNTY

## **BOARD OF COUNTY COMMISSIONERS CARVER COUNTY, MINNESOTA**

Date: March 16, 2021

Resolution No: 32-21

Motion by Commissioner: Degler

Seconded by Commissioner: Workman

---

### **Resolution to Support and Adopt the Arboretum Area Transportation Plan**

WHEREAS, Carver County, the Minnesota Department of Transportation (MnDOT), the City of Victoria, the City of Chaska, and the City of Chanhassen and are responsible for the planning and development of a safe and functional multimodal transportation system within their jurisdictional boundaries; and

WHEREAS, Carver County partnered with the Minnesota Department of Transportation (MnDOT), the City of Victoria, the City of Chaska, and the City of Chanhassen to identify transportation system improvements in the area of the Minnesota Landscape Arboretum including Highway 5, Highway 41, Rolling Acres Road, Bavaria Road, and 82nd Street West; and

WHEREAS, the Arboretum Area Transportation Plan recommends roadway corridor visions including roadway typical sections and corridor footprints, pedestrian and bicycle facilities, and access type and intersection control to serve short, mid, and long-term development and transportation infrastructure needs; and

WHEREAS, the Arboretum Area Transportation Plan includes an implementation framework with estimated improvement costs, project sequencing, and timeframes to guide capital improvement planning for Carver County, MnDOT, the City of Victoria, the City of Chaska, the City of Chanhassen, and their partners for improvements along Highway 5, Highway 41, Rolling Acres Road, Bavaria Road, and 82<sup>nd</sup> Street West; and

WHEREAS, Carver County recognizes the recommended planning level alternatives establish a future vision for agencies to jointly work towards, noting additional engineering design and environmental review will be required for individual projects; and

WHEREAS, Carver County acknowledges that the implementation framework is subject to funding availability and Arboretum Area Transportation Plan partners will continue to coordinate to advance the goals and objectives of the plan, seek and maximize outside funding sources, and will request approvals as required as individual projects move forward; and

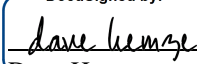
NOW THEREFORE, BE IT RESOLVED that Carver County hereby supports and adopts the findings, recommended corridor visions, and the proposed implementation framework of the Arboretum Area Transportation Plan to guide future investments in the study area.

Yes	No	Abstained
Degler		
Fahey		
Lynch		
Udermann		
Workman		

STATE OF MINNESOTA  
COUNTY OF CARVER

I, Dave Hemze, duly appointed and qualified County Administrator of the County of Carver, State of Minnesota, do hereby certify that I have compared the foregoing copy of this resolution with the original minutes of the proceedings of the Board of County Commissioners, Carver County, Minnesota, at its session held on the 16 day of March, 2021, now on file in the Administration office, and have found the same to be a true and correct copy thereof.

Dated this 16 day of March, 2021.

DocuSigned by:  
  
 Dave Hemze  
 County Administrator





# Resolution No. 2021-14

*Moved by Roberts  
Seconded by Gunderson*

## A RESOLUTION OF SUPPORT FOR THE ARBORETUM AREA TRANSPORTATION PLAN

**WHEREAS**, the City of Victoria, Carver County, and MnDOT are responsible for the planning and development of a safe and functional multimodal transportation system within their jurisdictional boundaries; and

**WHEREAS**, the City of Victoria partnered with Carver County, MnDOT, the Minnesota Landscape Arboretum, and the cities of Chaska and Chanhassen to identify transportation system improvements in the Arboretum Area including Highway 5, Highway 41, Rolling Acres Road, Bavaria Road, and 82nd Street West; and

**WHEREAS**, the Arboretum Area Transportation Plan recommends roadway corridor visions including: roadway typical sections and corridor footprints, pedestrian and bicycle facilities, and access type and intersection control to serve short, mid, and long-term development and transportation infrastructure needs; and

**WHEREAS**, the City of Victoria recognizes that the study recommendations establish future planning-level corridor visions for agencies to jointly work towards, noting additional design and environmental review will be required for individual projects; and

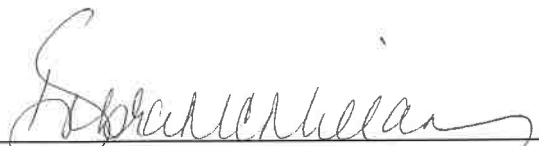
**WHEREAS**, the Arboretum Area Transportation Plan includes an implementation framework with estimated improvement costs, project sequencing, and timeframes to guide capital improvement planning for the City of Victoria, Carver County, and their partners for improvements along Highway 5, Rolling Acres Road, Bavaria Road, 82nd Street West, and Highway 41; and

**WHEREAS**, the City of Victoria acknowledges that the implementation framework is subject to funding availability and all Arboretum Area Transportation Plan partners will continue to coordinate to advance the goals and objectives of the plan, seek and maximize outside funding sources, and will request City Council approval for each specific project and City of Victoria contribution as individual projects move forward; and

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of Victoria does hereby support the findings, recommended corridor visions, and the proposed implementation framework of the Arboretum Area Transportation Plan to guide future transportation investments in the study area.

**RESULT:** Motion carried unanimously 4-0  
**Ayes:** Council Member Black, Council Member Gunderson, Mayor McMillan, and Council Member Roberts

This Resolution is adopted by the City of Victoria and approved by the Mayor this 08 day of February 2021

  
Debra McMillan, Mayor

ATTEST:

  
Cindy Patnode, City Clerk



**MnDOT Metro District  
1500 West County Road B-2  
Roseville, MN 55113**

April 12, 2022

Lyndon Robjent, PE  
Public Works Director, County Engineer  
Carver County Public Works

**Re: MnDOT Letter for Carver County's Metropolitan Council/Transportation Advisory Board 2020 Regional Solicitation Funding Request for TH 5 improvements**

Lyndon,

This letter documents MnDOT Metro District's recognition for Carver County to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2022 Regional Solicitation for the following improvements on TH 5.

As proposed, these projects impacts MnDOT right-of-way on TH 5. As the agency with jurisdiction over TH 5, MnDOT will allow Carver County to seek improvements proposed in the applications. If funded, details of any future maintenance agreement will need to be determined during project development to define how the improvements will be maintained for the projects' useful life.

**TH 5 Lake Minnewashta and Arboretum Access and Mobility Improvement.** Reconstruct and expand TH 5 from a two-lane rural highway to a four-lane divided expressway between Minnewashta Parkway and Highway 41 including a bridge over Lake Minnewashta.

**TH 5 Victoria Mobility and Safety Improvement.** Reconstruct and expand TH 5 from a two-lane rural highway to a four-lane divided expressway from 78th St./Stieger Lake Ln. to west of Highway 13 (Rolling Acres Rd.) including improvements at the Highway 5/Park Dr./Kochia Ln. intersection and the TH 5/78th St./Stieger Lake Ln. intersection.

**TH 5/Highway 11 N Intersection Safety and Access Improvement.** Construct a roundabout at the intersection and reconstruct adjacent portions of TH 5 and Hwy 11

There is no funding from MnDOT currently planned or programmed for these projects. If they receive funding, continue to work with MnDOT Area staff to coordinate development and to review needs and opportunities for cooperation.

If you have questions or require additional information at this time, please reach out to Ryan Wilson South Area Manager, at [ryan.wilson@state.mn.us](mailto:ryan.wilson@state.mn.us) or 651-234-4216.

Sincerely,

Michael Barnes, PE Metro District Engineer

CC: Ryan Wilson, Metro Area Manager; Molly McCartney, Metro Program Director; Dan Erickson, Metro State Aid Engineer

# City of Victoria

March 28, 2022

Mr. Lyndon Robjent, P.E.  
Public Works Director, County Engineer  
Carver County Public Works  
11360 Highway 212, Suite 1, Cologne, MN 55322

**Re: Letter of Support for Carver County's Application to the Metropolitan Council's 2022 Regional Solicitation for Highway 5 Victoria Mobility and Safety Improvement from 78th St./Stieger Lake Ln. to west of Highway 13**

Dear Mr. Robjent,

This letter documents the City of Victoria's support for Carver County's pursuit of funding for the Highway 5 Victoria Mobility and Safety Improvement from 78th St./Stieger Lake Ln. to west of Highway 13 (Rolling Acres Rd.) including improvements at the Highway 5/Park Dr./Kochia Ln. intersection and the Highway 5/78th St./Stieger Lake Ln. intersection. The project expands Highway 5 to a 4-lane divided facility and implements access management and intersection safety improvements along this segment of Highway 5.

The City of Victoria partnered with Carver County, the Minnesota Department of Transportation (MnDOT), the City of Chanhassen, the City of Chaska, and the MN Landscape Arboretum on the Arboretum Area Transportation Plan corridor study to identify coordinated roadway improvements to address significant existing transportation mobility, safety, and access issues on the TH 5 corridor. The Arboretum Area Transportation Plan corridor study included a robust technical analysis, concept development, concept evaluation, and a diversified and broad public engagement strategy to identify and build consensus for short and long-term roadway concepts and recommendations. The proposed project is consistent with the adopted study.

The City of Victoria supports the County's application for Highway 5 Victoria Mobility and Safety Improvement to the Metropolitan Council's 2022 Regional Solicitation funding program and acknowledges potential City cost-share in the project per existing policies as outlined in the application. The proposed improvements will greatly address regional safety and mobility issues and are endorsed by the City of Victoria.

Sincerely,



Debra McMillan  
Mayor



# Highway 5 Victoria Mobility & Safety Improvement Project

## Carver County

### Primary Contact:

Angie Stenson  
Sr. Transportation Planner  
612.360.7422  
[astenson@co.carver.mn.us](mailto:astenson@co.carver.mn.us)



### Application Category:

Roadways including Multimodal Elements  
– **Strategic Capacity**



### Corridor Fast Facts:

- One of 20 developed improvements along Highway 5 between Victoria and Chanhassen
- Project provides two improved connections to the Lake Minnetonka Regional Trail
- Improvements may reduce crashes within the project area by over 60%



### Funding Information:

**Requested Award Amount:**  
\$10,000,000  
**Local Match:** \$2,587,000  
**Project Total:** \$12,587,000



### Match \$ Sources:

- Carver County
- City of Victoria
- Trunk Highway Funds

### Project Description

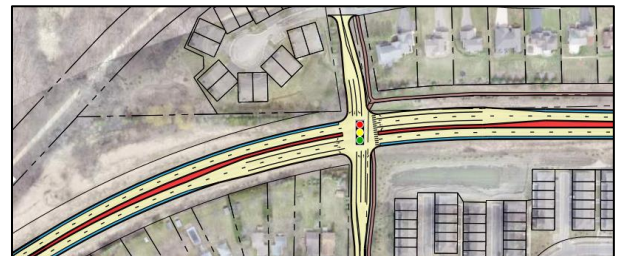
The Highway 5 Victoria Mobility and Safety Improvement project expands Trunk Highway 5 to a four-lane urban section within the City of Victoria. Proposed improvements include the expansion of Highway 5 between Kochia Lane/Park Drive and Stieger Lake Lane, a new traffic signal and turn lane improvements at the Kochia Lane/Park Drive intersection, the conversion of 78<sup>th</sup> Street and Stieger Lake Lane intersections to right-in/right-out, and substantial pedestrian and multimodal improvements and connections

Highway 5 provides a primary artery connecting the cities of Waconia, Victoria, and Chanhassen within Carver County and serves as a major commuter route to job centers along the route and to the core Twin Cities metropolitan area. Highway 5 is the premier east-west route within Carver County, the fastest growing County by population in the state in recent years. Growing traffic volumes has increased congestion within the area causing a bottleneck effect through the Victoria area. Increased Highway 5 traffic has also degraded the safety of the corridor, with fatal and serious injury crashes occurring in recent years. Lack of pedestrian facilities along and across Highway 5 forms a barrier between residential areas south of the highway and downtown Victoria north of the highway.

### Project Benefits

This segment of Highway 5 is approaching its throughput capacity and experiencing delays in the peak hours. Forecasted development and traffic growth, not only in the immediate project area but also in the surrounding cities, will only exacerbate the operations and safety issues experienced today.

Proposed improvements will offer immediate relief for existing and long-term capacity concerns for regional growth. Proposed multimodal trail facilities will fill existing gaps and dead ends in the network providing a more cohesive system and provide meaningful connections. Controlled crossing of highway 5 via a new traffic signal at Kochia Lane/Park Drive and an enhanced pedestrian crossing system with median refuge island will remove the barrier the highway currently poses on nearby pedestrians. These multimodal enhancements will promote ease of mobility to downtown Victoria and the Lake Minnetonka Regional Trail.



### Part of a Bigger Picture

A study of Highway 5 in the area identified a vision for the corridor which includes an expansion of Highway 5 throughout the area as well as intersection, access, and multimodal improvements to best improve safety and operations, as well as meet the future needs for development and pedestrian access. This project as proposed fits the adopted vision for the corridor and will fit with future infrastructure investments and support development opportunities.





**MnDOT Metro District  
1500 West County Road B-2  
Roseville, MN 55113**

April 12, 2022

Lyndon Robjent, PE  
Public Works Director, County Engineer  
Carver County Public Works

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Lyndon,

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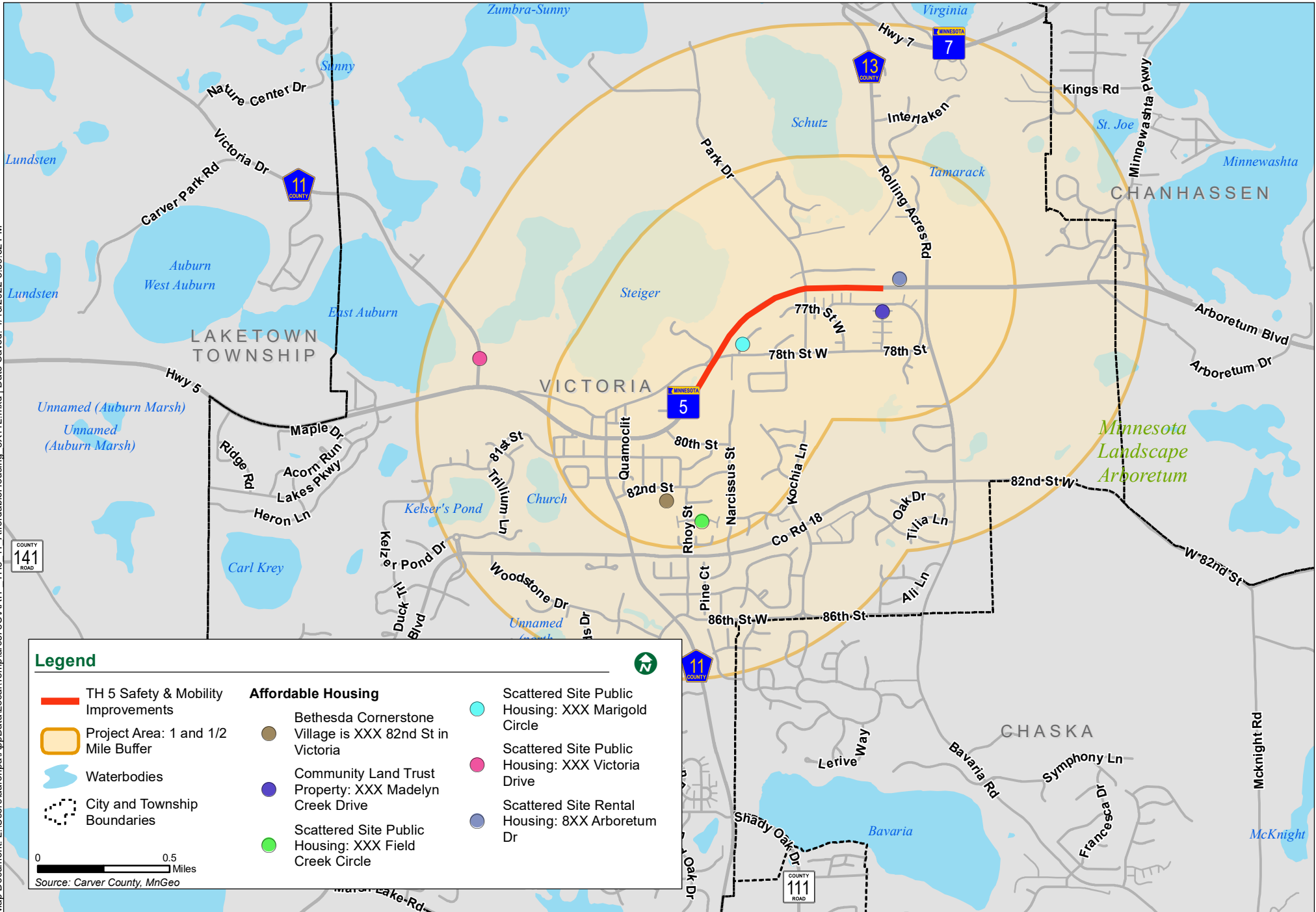
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Sincerely,

Michael Barnes, PE Metro District Engineer

CC: Ryan Wilson, Metro Area Manager; Molly McCartney, Metro Program Director; Dan Erickson, Metro State Aid Engineer



TH 5 at Kochia Lane/Park Dr Existing Conditions – looking west





Kochia Lane/Park Dr at TH 5 Existing Conditions – looking north



TH 5 at 78<sup>th</sup> Street Existing Conditions – looking southwest



TH 5 at 78<sup>th</sup> Street Existing Conditions – looking west





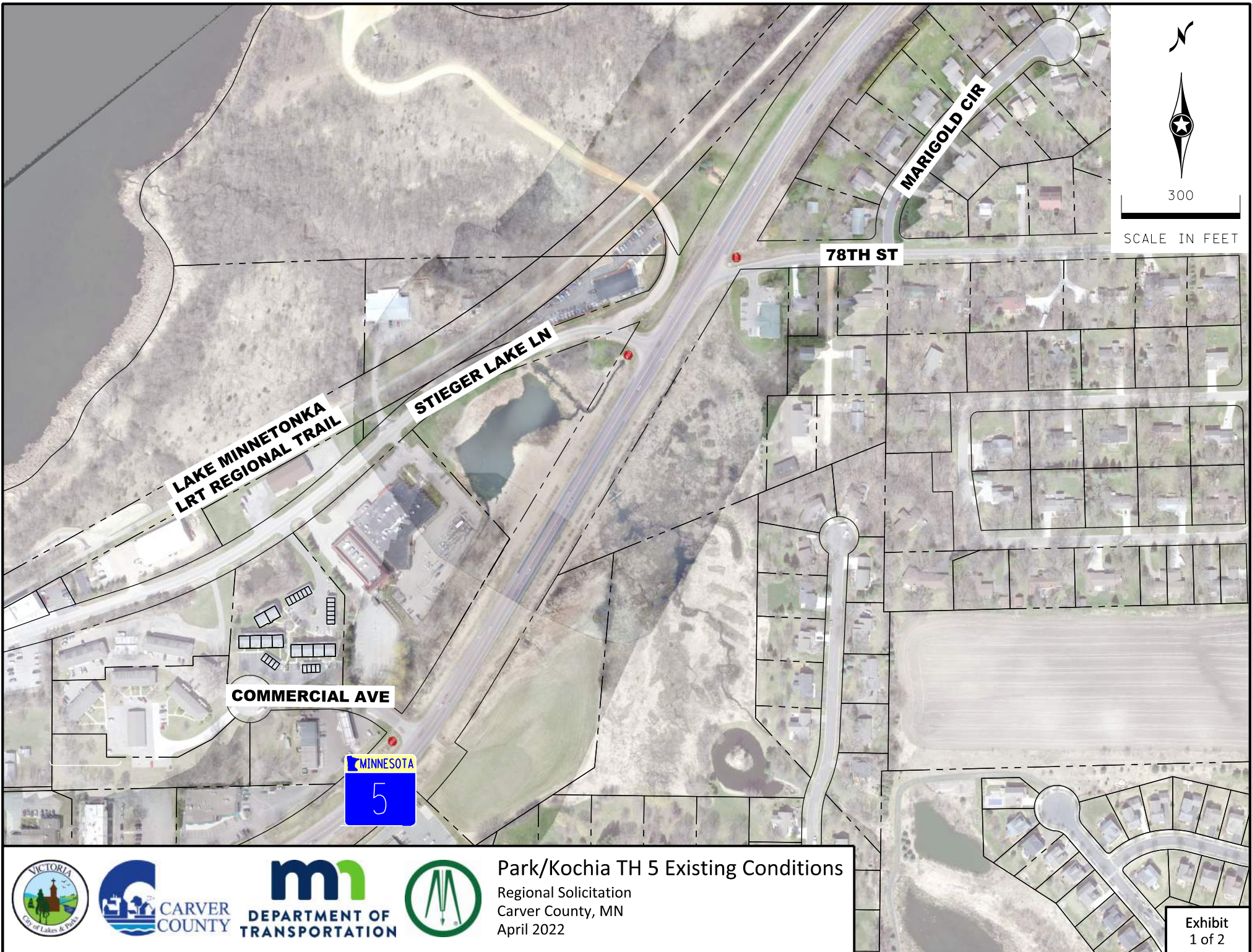
SCALE IN FEET

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TH 5 ARBORETUM AREA  
 MOBILITY AND ACCESS  
 IMPROVEMENT TO BE  
 CONSTRUCTED IN 2025



**Park/Kochia TH 5 Existing Conditions**  
 Regional Solicitation  
 Carver County, MN  
 April 2022



SCALE IN FEET

300



**Park/Kochia TH 5 Existing Conditions**  
 Regional Solicitation  
 Carver County, MN  
 April 2022

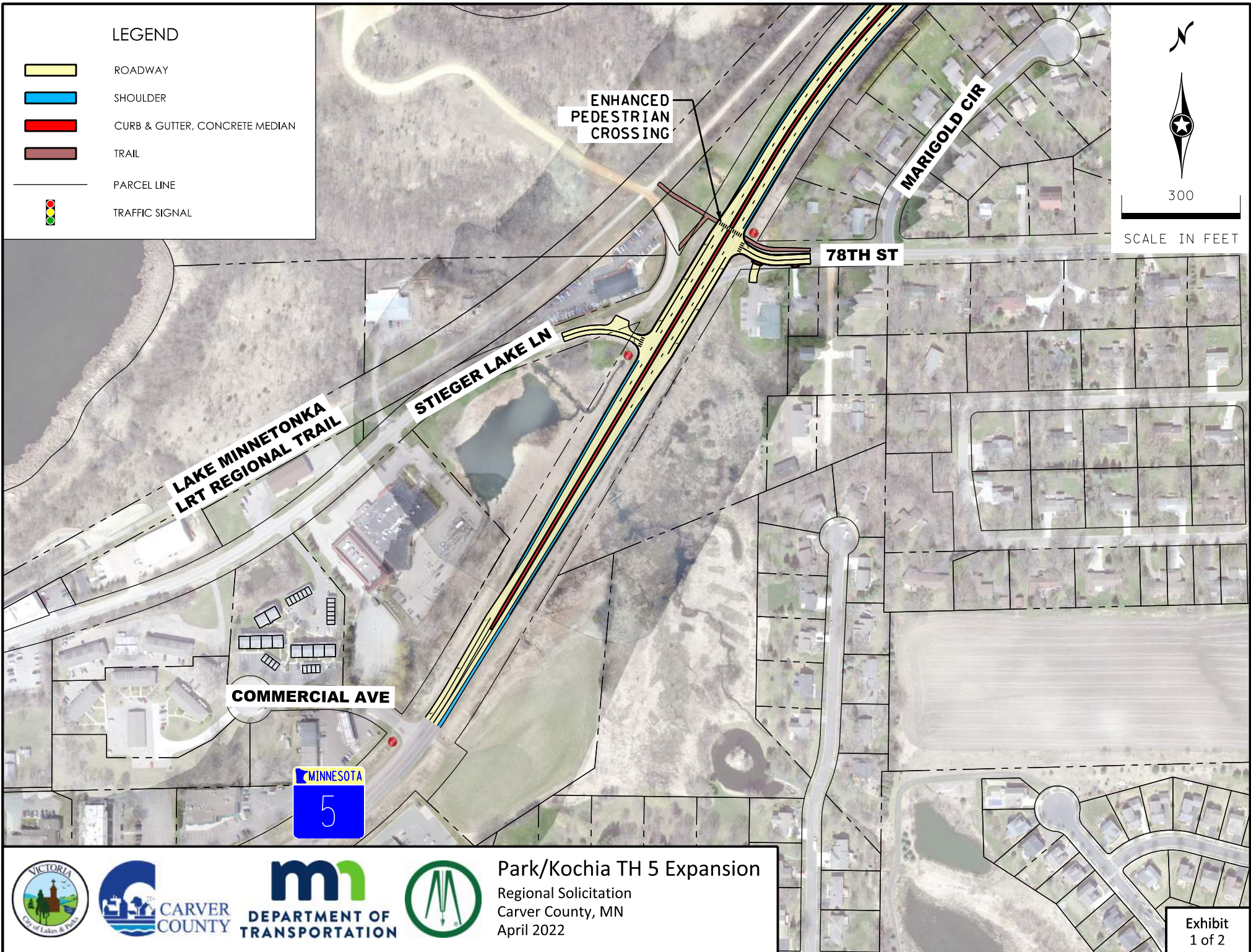
LEGEND

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SCALE IN FEET



Park/Kochia TH 5 Expansion  
Regional Solicitation  
Carver County, MN  
April 2022

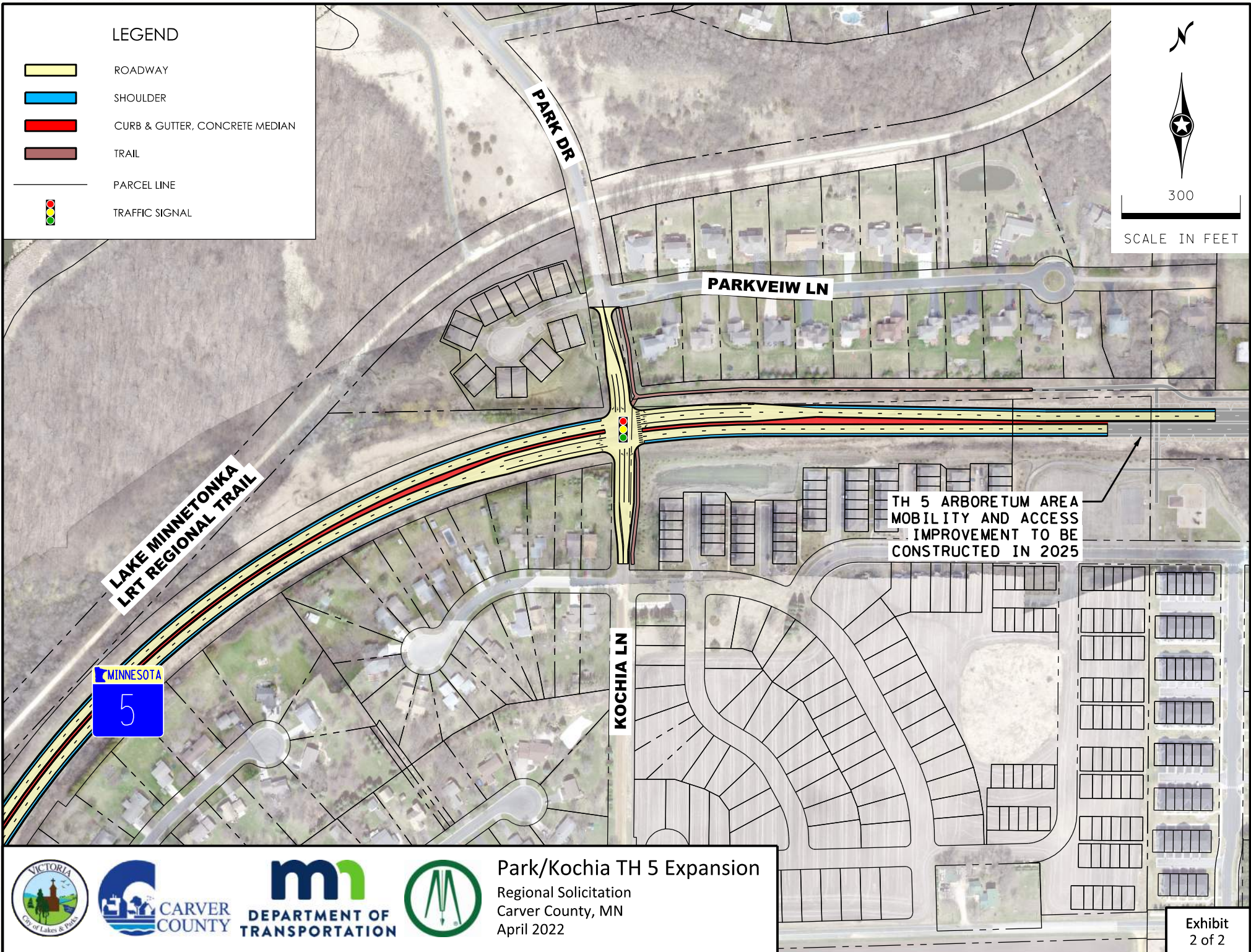
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Park/Kochia TH 5 Expansion  
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